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HYPERTHYROIDISM AND PSYCHOBIOLOGICAL REACTIONS.*

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AND
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In dealing with the combination of mental and endocrine disturbances, the following should be considered: The functional inter-relationship between the glands of internal secretion is so intimate that deviation from normal activity of one specific gland necessarily influences the function of other glands. Hence, an abnormally functioning endocrine organ may derive its disordered activity from a primary disorder in another gland. There is also ample evidence to show, (1) that the endocrine organs vividly respond to disturbances in the function of the autonomic nervous system, and (2) that there is a close relationship between psychobiological activity and activity of the visceral organs, more especially the endocrine organs, through the medium of the autonomic nervous system.

In this chain of functional inter-relationships the autonomic nervous system and the suprarenal and thyroid glands constitute the most conspicuous links. The thyroid and the suprarenals, pointedly nicknamed "glands of emotion," as organs particularly sensitive to emotional manifestations, the autonomic nervous system as the intermediary between mental and affective reactions on the one hand and visceral responses on the other. The thyroid gland deserves particular consideration for various reasons:

1. It is an organ accessible to direct examination. Consequently, when one is faced with deviations from its normal size and consistency, deviations coupled with other symptoms commonly connected with hyperthyroidism, one is tempted—without further investigation—to look upon this organ as the main, if not the only,

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causative agent of the abnormal physical and mental condition. It is self-evident that such an attitude based on nosology, and heedless of etiology and pathogenesis is wholly incorrect. From the therapeutic standpoint it proves to be inadequate in that it leads to hasty surgical intervention in cases which may be responsive to conservative medical and psychiatric treatment.

2. The relationship between thyroid function and psychobiological reactions has a bearing on the pathogenesis, at least, of certain forms of hyperthyroidism.

3. Another reason for particular consideration of the thyroid gland is that the discussion of the relationship between its function and psychobiological reactions presents a particular interest in the light of the claims that malfunction of glands of internal secretion has a prominent part in the origin of mental diseases.

Guided by these general considerations, derived from clinical experience and experimental physiological investigations, we endeavored to estimate the significance of what was considered to be distinct (or more or less marked) hyperthyroidism in a group of 70 patients from the Phipps Clinic, Baltimore City Hospital, and the Vanderbilt University Hospital. This group may be subdivided into two subgroups: 1. Twenty-seven patients in whom manifest hyperthyroidism occurred either before or coincident with the development of a psychosis. 2. Forty-three patients in most of whom the clinical picture and the evolution of the disease suggested that the dysfunction of the autonomic nervous system was the essential element. In some of the patients of this group, symptoms of hyperthyroidism were as pronounced as in the patients of the other group. The fact, however, that the symptoms subsided, without any specific treatment of the thyroid, within a relatively short time and coincidently with recovery or marked improvement in the physical and mental condition, made us feel that these patients, more than those of the first group, furnished material particularly suitable for the discussion of the pathogenesis of hyperthyroidism. They therefore deserve to be treated separately. We recognize, nevertheless, that our subdivision is artificial; its justification primarily lies in helping to systematize the discussion.

1. Psychotic Patients with Distinct Hyperthyroidism.

In these patients the interest centers in the relation of hyperthyroidism to various types and content of mental illnesses and in its part in the causation and development of such illnesses. The question whether or not hyperfunction of the thyroid is apt to be associated more specifically with certain types of psychoses finds an answer in the wide range of diagnoses figuring in this group of patients: schizophrenia, anxiety state, presenile psychosis, toxic delirium, agitated depression, simple depression, recurrent depression, mania, paranoic reaction, psychoneurosis, constitutional psychopathic personality, and epilepsy. While our material comprises too small a number of cases for a statistical study, it strongly suggests certain conclusions. First, that hyperthyroidism does not coincide specifically with one or another type of psychosis. Second, that the content of the psychoses associated with thyrotoxicosis does not essentially differ from the content of similar types of psychoses, without hyperthyroidism. In the delirious reactions of thyrotoxicosis, for example, there is confusion, excitement, screaming, perplexity, visual and auditory hallucinations, vivid and alarming dreams, fear and panic excitement. One notices that the delirious manifestations are not different from those occurring for instance in bromide intoxication, in fever, in infections, in excessive dehydration, or after an operation, etc.

With regard to the rôle of hyperthyroidism in the etiology and the development of abnormal mental reactions, our observations demonstrate that a great many possibilities, defying generalization, may present themselves; this may be illustrated by the following brief summaries of our records.

A. *Toxic Delirium.*—In a woman of 58, the delirious condition in which terrifying dreams, followed by fright and confusion stood out prominently, began after a mastoid operation, and became more alarming during an attack of tonsillitis. During these illnesses and convalescence, symptoms of hyperthyroidism came to the fore. The patient had a partial thyroidectomy 15 years before her present trouble. Her personality is described as friendly, cheerful, out-going, sensitive, affectionate, emotional. In view of the persistence of the delirious state and of the thyroid symptoms, thyroidectomy was performed again and was followed by complete recovery.

B. *Agitated Depression.*—A woman, 39 years of age, a patient of the Baltimore City Hospital, was extremely agitated, walked about the ward, praying and kissing everyone and everything, repeating that something was going to happen to her, that she was going to die. She heard voices of the other patients accusing her and threatening to kill her and stated that the physician wanted to kill her. The physical examination revealed local and general symptoms of hyperthyroidism. Thyroidectomy was followed by recovery within two weeks after the operation.

C. *Recurrent Affective Psychosis with Schizophrenic Features.*—A woman, 53 years old, in the fall of 1918, became over-talkative, suspicious, and confused. She refused water and food, walked around without clothes, said she had gone through a "test," had gone to "hell" and had had "several babies." After a stay of four months in a psychiatric hospital, she was discharged as "recovered." Her sister, however, reported that at home the patient had been dreamy and untidy in personal appearance and in eating habits.

In 1921, she was admitted to the Phipps Clinic with the complaints of "flushes," "sleeplessness," "over talkativeness" and "suspiciousness." The course in the clinic was as follows: push of activity, erotic behavior, flight of ideas, retention of saliva, at times mute though apparently happy, then depressed, confused, talking of the "immorality of all men," of "electricity," fears of being killed, of the nurses "crushing her ears," voices calling her a "dirty cat," of fire coming out of the walls to burn her; and she accused people of making sexual assaults. Operation for hyperthyroidism was found to be indicated but was not carried out; the surgeon preferred to wait until she became more quiet and would be more cooperative. In the meantime, the patient was transferred to a state hospital where she stayed for almost a year. She was apparently well for eight years. In 1930 she returned to the state hospital with depressive symptoms and some ideas of being talked about and of being held responsible. No signs of hyperthyroidism were elicited.

D. *Depression.*—A 20-year-old girl, who, on admission to the Phipps Clinic, complained of not being interested in anything, of not being able to study, of inability to concentrate, and of suffering pain in the right lower quadrant of the abdomen. Her present

illness began with anorexia, vomiting, and tightening of the muscles of the throat, loss of interest, and depression. This followed a strenuous year of preparation for a career as an opera singer. At the same time she developed signs of hyperthyroidism. Thyroidectomy was performed, with injury to the vocal cords. She then became more depressed. Her personality was described as quiet, calm. She never had friends and felt herself disliked; she had not derived satisfaction from her successes in music. She was characterized in our clinic as capable of rather low energy output but she set for herself rather high standards. The family history brought out that she was the only child of ambitious Russian Jewish parents. The mother was nervous, high-strung and had a quite marked exophthalmos. The patient was discharged, after a few months in the clinic, practically recovered but still complaining of the abdominal pain for which no objective findings could be elicited.

E. *Senile Psychosis.* (?)—A woman 52 years old was admitted to the Phipps Clinic in December 1927, with the following story: In June she had become restless and difficult to keep in bed; irritable, hard to please and resistant. Her sleep and appetite were poor, complained that "the undertaker is pumping something in and out of my stomach." She would go away from home without warning the family and on her return would hide in different parts of the house.

There was a history of previous depression at menopause.

In the clinic she was restless, apathetic and answered questions inadequately and evasively. She ate well, but was spoon fed. She was suspicious, hid behind doors and peeped into the ward, often got into bed with other patients. She was uneasy and anxious, had occasional persecutory delusions, was slow in grasping meanings, had difficulty in recalling things, and showed much perseveration.

The diagnosis of hyperthyroidism having been established, thyroidectomy was performed. Following this the patient gradually improved. The fact that the patient finally almost completely recovered made us doubtful of the original impression of an essentially senile reaction. We felt that her condition was dependent mainly upon the dysfunction of the thyroid.

F. *Psychopathic Personality.*—Female, age 57. She complained of "no vitality" since the menopause, 11 years before; of being

afraid of meeting people and of entering a crowded room since that time. She also complained of marked loss of weight, exhaustion, palpitation and excessive perspiration. For the previous two months, following the death of her husband, she was depressed. She had been disturbed by syphilophobia and other obsessions all her life. There was a history of two attacks of hyperthyroidism in the year prior to admission, which yielded to Lugol's solution and X-ray treatments. While in the Phipps Clinic, she presented marked signs of hyperthyroidism. After thyroidectomy she was greatly improved from the physical standpoint. She also quieted down and her general behavior markedly improved.

These very sketchy outlines bring out the coincidence in time of hyperthyroid function and of mental disorders. While we found it impossible accurately to determine the chronological sequence in the appearance of these disturbances, the rôle of the thyroid dysfunction, as a causative agent, or as a precipitating or an aggravating factor in the psychoses of our patients, is quite obvious. More than the coincidence in time, the recoveries or distinct improvements in the psychotic state, following the disappearance of symptoms of hyperthyroidism, militate in favor of this interpretation. It is true that one of our patients became more depressed after thyroidectomy than she was before, but neither the operation itself, nor the control of the hyperthyroidism is to be blamed. It appears more reasonable to assume that the injury of the vocal cords in a young girl who was in the midst of preparations for her début as a singer with an opera company, provided a sufficiently potent cause for deepening the depression. A somewhat similar occurrence, in so far as the thyroid operation was involved indirectly in the origin of depression, was related in the history of another patient, diagnosed as affective paranoid reaction type. This patient had a double lobectomy, followed by improvement in her physical and nervous condition, and then developed a fear of insanity. This came to the front after she read that loss of the thyroid might be the cause of insanity.

The question of interrelationship between hyperthyroidism and major and minor psychotic disorders has been extensively discussed in the literature. Certain data are of interest in connection with our findings: It is a well-known fact that thyroid malfunction is accompanied by more or less marked deviations from the average

normal mental and motor activity. We refer to the mental dullness in cretinism and in myxedema, to the rather sluggish mentality in certain degrees of hypothyroidism and to the mental and motor overactivity in hyperthyroidism. As to the relationship between major psychosis and hyperthyroidism quite general agreement has been reached in regard to two points: 1. The combination of insanity and hyperthyroidism is not of frequent occurrence. Thus, Parker states that at the Mayo Clinic less than two per cent of their patients with exophthalmic goiter presented evidences of mental disturbances. Foss and Jackson in a similar study of 800 patients found evidence of mental disorders in two cases only. Furthermore, in a study of 1700 psychotic patients they observed goiter in 50 individuals only, and their impression was that there was no relation between the thyroid disturbance and the various types of psychosis. In Johnson's statistics, out of 2286 patients with hyperthyroidism who were hospitalized for operation there were only 24 instances of psychoses (as diagnosed by a psychiatrist). On the other hand, Phillips emphasizes the frequent combination of psychosis with abnormal thyroid function and states that hyperthyroidism is associated with manic excitement and hypothyroidism with schizophrenia.

2. Aside from thyrotoxic delirium, which does not differ from toxic delirium in other toxic and infectious conditions, it is impossible to assign to the thyroid a basic causative rôle in psychosis. It may, however, aggravate an already existent psychosis, or it may precipitate a psychosis in a susceptible individual. There is, therefore, no justification for a specific classification of thyrotoxic psychosis. (Sattler, Woodbury, Kessel and Hyman, Hammes.) These views are in complete accord with the observations recorded above. Conversely, Ginsburg states that "A depressive psychosis may develop in the course of thyrotoxicosis not as a mere casual phenomenon but definitely dependent upon toxic products," and that, in his observation, "such a psychosis has cleared up and failed to recur when the thyrotoxic condition was controlled." Woodbury also claims that depression of moderate duration is to be found quite frequently in thyrotoxic conditions. He believes that this type of psychosis is more common in non-exophthalmic hyperthyroidism than in the exophthalmic type.

Heretofore, our discussion has been concerned with the rôle of hyperthyroidism in the origin and development of psychoses and its relation to various types of psychoses. Keeping in mind the above discussed functional interrelationships between the glands of internal secretion, the autonomic nervous system and mental reactions, one naturally feels curious to know whether or not the relationship is a mutual one, that is, whether mental reactions may be held responsible for hyperthyroid function. In this respect our second series of patients, as previously pointed out, represent more adequate material than the first group.

2. Patients with Symptoms of Dysfunction of the Autonomic Nervous System Simulating Hyperthyroidism.

The great similarity, if not identity, between symptoms of disequilibrium of the vegetative nervous system and certain signs of hyperthyroidism puts to the front the discussion of differential diagnosis between these two conditions. Each of the symptoms of hyperthyroid function may be observed in conditions in which dysfunction of the autonomic nervous system appears to be the essential factor. As a matter of fact, the general manifestations of hyperthyroidism are for the most part referable to sympathicotonic and vagotonic states, and therefore are as labile as the latter. The swings in Basedow patients, for instance, from hypo- to hyperchlorhydria, from diarrhea to constipation, from hyper- to hypoactivity are well known. Two symptoms, namely, tachycardia and basal metabolic rate, however, receive particular consideration in the differential diagnosis between hyperthyroidism and dysfunction of the autonomic nervous system. It is said that in the over-active thyroid the essential characteristic of the pulse rate would be to remain persistently high. Conversely, in the individual with an unstable autonomic nervous system the pulse rate would show great variations, and be easily influenced by emotional reactions and postural changes. We have not regularly observed such marked differences between the hyperthyroid tachycardia and the so-called " neurotic tachycardia." In some of our patients with distinct hyperthyroidism the curve of the pulse rate and the orthostatic changes of the latter were not different from that noted in

cases with essential dysfunction of the autonomic nervous system and complete absence of symptoms suggestive of hyperthyroidism.

High basal metabolic rate is quite justifiably looked upon as an extremely significant symptom in the differential diagnosis between essential hyperthyroidism and a primary condition of imbalance of the autonomic nervous system. It is not, however, a pathognomonic sign and when associated with other signs of hyperthyroidism may even be misleading. Thus, McGregor reported a case in which marked tachycardia and basal metabolic rate (+ 85, + 75 and + 61) led to the diagnosis of hyperthyroidism. The postmortem examination revealed a normal thyroid gland and carcinoma of the left suprarenal gland. In our experience with psychoneurotic patients high basal metabolic rates, obtained under perfectly satisfactory conditions, that is, the patients remaining at least outwardly quiet, also were responsible for diagnostic difficulties.

This may be illustrated in the following two cases: First, a girl, 24 years old, presented local and general symptoms of hyperthyroidism. The history of her condition in the last six months appeared to substantiate the diagnosis of hyperthyroidism. While the psychiatric examination revealed an abundance of psychogenic material, the basal metabolic rate (+ 63) was believed to be too high to be caused solely by her tension state. After two weeks of treatment with continuous tubs and sedatives, her pulse rate quieted down to 70 and her basal metabolic rate came down to −4. It became obvious that her original condition was essentially that of a tension state with participation of the thyroid gland.

In the second case there was marked anxiety and tension. The basal metabolic rate taken on the second day of menstruation was + 88. Two other tests repeated a few days later showed + 15 and + 5.

Such observations bring to the front the discussion of pathogenesis and treatment of hyperthyroidism. The question arises, should one look upon hyperthyroidism as a specifically thyroid disease, or as a certain pathologic state in which the thyroid gland is only a participant? Comparative studies of the histology of the thyroid gland and of clinical symptoms of its hyperactivity show that apparently no connection is *constantly* to be found between structural alterations of the gland and its function. Hypertrophy and hyperplasia may or may not manifest themselves by symptoms

of thyrotoxicosis. Conversely, clinical symptoms of hyperthyroidism are always associated with histological alterations in the thyroid gland (Rienhoff). It appears that the thyroid involvement alone, as measured by structural alteration, is not self-sufficient to produce functional disorders. As previously pointed out by one of us, there must be other dynamic factors. The clinical nosology of hyperthyroidism, as seen, for instance, in Basedow's syndrome, accounts for the concept that dysfunction of the vegetative nervous system, chiefly sympathicotonia, is the main etiologic agent. The interaction between the chromaffin system (sympathetic nerves and suprarenal glands) and the thyroid gland, however, is such that not only the increased activity of the former is accompanied by increased activity of the latter, but the reverse is also true. The differentiation between cause and effect, that is, whether the thyroid malfunction precedes or follows that of the autonomic nervous system therefore remains a matter of speculation. Conversely, on the basis of thorough studies of life histories of patients affected with hyperthyroidism, one feels justified in making the assertion that the dysfunction of both the thyroid gland and the autonomic nervous system takes place in patients in whom there is to be found a combination of instability and of injurious environmental influences. That the thyroid gland is remarkably plastic, readily responding by a certain degree of hyperfunction to certain biological changes in the organism, finds demonstration in the adolescent goiter and in the temporary thyroid hyperplasia, not infrequently observed during menstruation. In cases with distinct hyperthyroidism, one may assume the existence of organic inferiority of the thyroid gland. But what is important to note is that the pathological manifestations of the latter are almost always associated with personality difficulties which are found to have been more or less prevalent throughout the life of the patient, and which under certain unfavorable environmental conditions became more pronounced. Such an interpretation of hyperthyroidism in the light of etiologic and pathogenetic factors naturally leads one to a therapeutic approach which differs from that based on the concept that hyperthyroidism is an autonomous thyroidal disease.

In accordance with our observations, some of which have been briefly recorded here as examples, we consider that from the standpoint of treatment, hyperthyroidism represents essentially a medical

and psychiatric problem. Generally speaking, any therapeutic procedure successful in quieting down the usually highly tuned emotionalism in these patients, is likely to have a beneficial effect on the thyroid condition. Thus, general hygienic measures, rest, hydrotherapy, sedatives and psychotherapy should be given a fair trial before one considers operation. Concerning the use of surgery, it is interesting to learn that certain restrictions have been advocated even by surgeons. Thus, Bircher in Switzerland, who is in charge of an exceedingly active surgical service, declares that he does not favor, unconditionally, surgical therapy in Graves' disease, for the simple reason that he has never seen a case of complete recovery. Crile, while advocating thyroidectomy as the treatment of choice in cases of distinct hyperthyroidism, considers, that in mild forms, conservative treatment, with rest as the main feature, may effect a cure. On the other hand, out of 21 cases of residual hyperthyroidism, Crile attacked the adrenals instead of the thyroid. Unilateral adrenalectomy was done in eight cases and bilateral denervation of both adrenals in 13 cases. The general symptoms of hyperthyroidism subsided. These facts again suggest the opinion that the weakness in hyperthyroidism does not lie in the thyroid alone.

It follows from our discussion that even though resorting to thyroidectomy one should be mindful of the experience showing that operation in many cases is also no more than a palliative, symptomatic treatment. The general personality background is not cured by the operation. Therefore, the most successful surgical treatment does not relieve the physician from the obligation to treat the patient's personality difficulties, that is, to treat the patient as a whole, as a psychobiological unit.

Summary.

An attempt was made to estimate the significance of more or less marked hyperthyroidism in 70 psychoneurotic and psychotic patients. Two problems were discussed: (a) The rôle of hyperthyroidism in the etiology and pathogenesis of psychoses; (b) The correlation between psychobiological reactions, dysfunction of the autonomic nervous system, and hyperthyroid function. Our material suggests the following:

1. Hyperthyroidism may coincide with various types of actual psychoses; thyrotoxicosis is apt to cause mental reactions which are not essentially different from those commonly present in many other toxic and infectious conditions.

2. In some of our psychotic patients the hyperthyroid function appeared to play a rôle as a causative, precipitating, or aggravating factor. In other patients, hyperthyroidism did not seem to have any bearing on the origin, course, and recurrence of various types of psychoses.

3. Studies of life histories of patients, having symptoms of dysfunction of the autonomic nervous system and of hyperthyroidism, bring out the presence of more or less serious psychobiological implications. Such studies strongly suggest, first, that there is a close interrelationship between the psychobiological implications and the malfunction of both the thyroid gland and the autonomic nervous system; second, that these pathologic manifestations have a common origin which may be traced to a combination of personality background (including a predisposition to hyperthyroidism) and injurious situational conditions.

4. In the discussion of the differential diagnosis between dysfunction of the autonomic nervous system and hyperthyroidism, it was pointed out that both persistent tachycardia and high basal metabolic rate, considered to be characteristic of hyperthyroidism, may also be present in conditions in which the dysfunction of the autonomic nervous system appears to be the essential factor.

5. Granting that hyperthyroidism is not exclusively a thyroidal disease, its treatment in every case necessitates a consideration of medical and psychiatric aspects before surgical intervention is considered.

6. Thyroidectomy is regarded as a treatment measure which may or may not have an influence on the general personality background; it, therefore, should always be supplemented by treatment of the patient's total personality and the situation in which hyperthyroidism has developed.

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THE PSYCHOPATHOLOGICAL EFFECT OF DRUGS AFFECTING THE VEGETATIVE SYSTEM.

I. Adrenalin.

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In spite of the large number of studies which have been undertaken in different countries to investigate the relationship between the vegetative system and mental disease, our knowledge of the nature and extent of such relationships is still very limited. The large amount of data is confusing. The optimistic presentations of Kempf [12] and Hess [5] contrast strongly with the attitudes of Schilder [24] and other authorities during recent years. The attempts at practical application have been very disappointing.

As we are confronted with this situation, it is worth while to undertake first of all a few methodological considerations. The difficulties encountered may be due either to the overwhelming complexity of the field or may be the result of inadequate concepts. Let us take for granted that the field is intricate and not easily accessible to simple experimental procedures, and let us examine whether our concepts are elastic enough to make possible heuristic hypotheses and promising experimentation.

It seems to us that many of the difficulties in research concerning our field can be attributed to lack in precision of scientific procedure. What I mean is exemplified by the following: A large percentage of all the studies which were made on the effects of vegetative conditions upon mental disease have been done by statistical methods. Given a certain disease entity, one studied one particular physiological factor such as blood sugar, blood pressure, and others and compared typical variations in different classes of diseases. One hoped to find a particular measure of physiological function as being characteristic for a given type of disease and as being different from that in normal conditions. The most recent result of this way of thinking was brought forth recently by

Laignier-Lavastine,[15] who claimed that a certain shift in the acid-alkaline ratio in the blood is the causal factor for certain types of abnormal mental conditions.

It is time to ask ourselves whether even the most intensive research along such lines can help us toward a thorough understanding of the relationship between mental disease and the vegetative system. It seems to us that in all these studies important features of psychopathological behavior are neglected. The fallacy in the logical considerations which are the premises to such experimentation is the following: Concepts like "disease entity" or "cause of disease," both of which are valid in clinical language (having certain implications as to prognosis and treatment of a given kind of syndrome), are not as useful in experimental psychopathological research. They are satisfactory concepts only for the purpose of classification but cannot serve as functional concepts of the type which Galileo made fruitful for experimental science.

For the purpose of psychopathological experimentation we have to step beyond the statistical method; we have to formulate a heuristic hypothesis from which follow of necessity certain conclusions to be proved or disproved by an experimental set-up.

In the history of studies of the vegetative functions the work of Cannon was remarkable as a guide along this line. He did not try to correlate the functions of single organs with each other exclusively, but considered variations in function as the expression of changes in the total attitude of the biological unit. Thus, for instance, the hyperglycemia produced by the adrenalin was viewed as merely one expression of an emergency reaction of the total animal. In the light of this hypothesis he found a meaningful relationship among the changes in the functions of different specific organs and in metabolic processes occurring simultaneously.

At first glance it would seem almost impossible to apply this type of procedure to the field of psychopathology. If we are content to use terms like "association of ideas," "memory defects," "delusions," etc., we refer to a certain system of evaluations, representing the attitude of the clinician looking for evidence of defect in certain "mental functions." Only a dynamic approach can liken our procedure to the fruitful experimental work in physiology. Fortunately, the work of Meyer and Schilder in the psychiatric field and that of Luria [21] and Lewin [16] in the psycho-

logical field and quite particularly that of Freud [6] in the field of psychopathological dynamics have given us the tools to tackle the whole problem of vegetative functions in mental disease from the angle of psychopathology.

We know now that we must not be satisfied with tabulating symptoms and comparing one mosaic of symptoms to another mosaic of symptoms, hoping in that way to find the cause of mental disease. We cannot even be satisfied with the next step of introducing a battery of tests in which we tabulate the efficiency of a number of functions in terms of performance scales. Such procedures are again only of clinical value, permitting certain predictions about later efficiency or inefficiency but not permitting us to find laws to predict under what conditions certain symptoms will occur.

We have learned that alarming and obvious symptoms such as hallucinations may have but little to do with the laws of the actual process underlying the formation of a mental disease. Desperate efforts have been made during recent years to find among all the phenomena of mental disease one or two which one might designate as *primary* symptoms to which one could relate the rest as *secondary* ones. These efforts are still bound within the limits of descriptive classification and generalization by abstraction. It becomes more and more clear, however, that what appears as symptoms or syndrome may result from very different dynamic conditions. An example of this is the well-known and striking similarity of certain manic conditions and certain paretic conditions. On the other hand, phenomena and symptoms seemingly very different may be the resultants of one and the same dynamic process,

The validity of a concept is based entirely upon the system of reference in which it is used and, likewise, the significance of a symptom of abnormal mental activity is based entirely upon the total situation in which it occurs. Instead then of generalizing by leaving out things of apparently minor importance and classifying them according to some common characteristic, our aim should be to determine in as pure a way as possible under what specific conditions of the total organism a particular symptom does occur.

If in our procedure we could find ways of characterizing the total behavior pattern of which any given symptom is an element, we would be in a much better position to relate our findings to

such terms as metabolism, economics of energy, and other terms widely used in modern physiology.

For our present study these considerations require the following: (1) It is not sufficient to correlate a particular disease entity or one particular item in a syndrome with another item in the field of the vegetative system such as the level of blood sugar, blood pressure, or others. (2) We must postpone the detailed arrangement of our experimental set-up until by careful description and evaluation of the total situation and the behavior patterns which occur in them, we have found some preliminary formulations which can be confirmed or disproved by subsequent experimentation.

Our problem will be the following: In which directions and to what degree can changes in the vegetative system produced by endogenous chemical agents modify the behavior of an individual in a given situation?

We do not expect to find the sole "cause" for any kind of abnormal behavior pattern in a specific vegetative state. The processes in the vegetative system are part of the total psychobiological adjustment. Chemical changes may or may not lead to a change in the equilibrium of adjustment. If a change in balance occurs it will manifest itself in turn by an adaptation of the individual to the new organization produced by the chemical interference.

A variety of observations under different conditions will be necessary in order to show all significant aspects of the total situation in which the person finds himself. Instead of applying a series of tests to a large number of patients of whom we do not know much more than the diagnoses we would have to observe as much as possible of the behavior in a small group of persons whose life situation we know well from many angles. After having recorded our findings in a first session we will try to change the total situation of the patient in a deliberate way and later repeat our observations in this new situation.

At the two preceding meetings of this Association, we had the opportunity to report about the psycho-pathological and physiological effects of certain intoxicating drugs: Mescalin, hasheesh, sodium amytal. It seemed wise to make use of our experience and to choose adrenalin as a chemical agent to disturb the vegetative equilibrium.

The action of this drug is so well known in its physiological aspects that no preliminary investigation was needed to demonstrate the somatic aspects of the change in behavior pattern which we expected.

One cc. of 1:1000 protective solution was injected intramuscularly into 48 patients. They had not had any nourishment for six hours before the experiment. In each case we secured the consent of the patient leaving no doubt that this was not a form of treatment but a measure to find new insight into the nature of mental disease. We recorded the blood pressure, the blood sugar level, measured by the method of Isaacson,[18] and the chronaxy values, by the method described in a previous paper,[19] as indicators of change in physiological behavior. Many points of interest were noted in our physiological findings. They will be the subject of a later communication. Today we want to use them merely as indicators of the extent to which the drug has affected the physiological functions of the organism.

For our psychopathological purposes a stenographic account was taken concerning behavior and utterances during the experiment. The examiner tried to adhere to a simple set of questions giving the patient as much freedom of self-expression as possible in this situation.

After an interval of from one day to several weeks, we repeated the experiment, after having tried to modify the total situation. Adjusted to the special type of patient with whom we were dealing, we made use of the following changes in the situation: (1) Psychotherapeutic interviews were had with the patient and some important features of his emotional life were discussed with him. (2) In patients in whose adjustment an exogenous factor was important, such as drugs or organic brain disease, we waited for signs of changes in this factor, for instance, gradual elimination of the drug. We then compared the reactions shown during the first and second experiments. Both sessions were followed or preceded by a session in which not adrenalin, but normal saline solution was administered.

Observations.

Our findings show quite clearly that it is not sufficient to relate any type of physiological or psychological alteration merely to a

disease process. The adjustment of the patient at a given moment, the relationship of his conflicts, and his resources for relief are important features in the situation.

This shows itself in both the extent and the character of the changes which we observed: (1) One and the same patient will have very different reactions in the two different sessions. Different types of disease show almost identical patterns if the type of adjustment and affective attitude are disturbed. (2) The changes in behavior show very little relationship to cognitive functions. What we see are changes in affective attitude, in the evaluation of the outside world, in the balance of activity and inhibitions, of outside interests, and self-concern, of desires and self-imposed restrictions.

CASE 1.—Z. A. A 56-year-old woman was admitted in a state of marked excitement with confusion. She poured out a rapid stream of talk in which violent accusations against her husband and an abundance of profanity formed the main features. It resembled manic utterances in type of associations, marked by distractibility and a rapid shift of object reference. Two weeks before admission she had had a serious attack of gall-bladder disease, followed by frequent vomiting and sleeplessness, which necessitated luminal medication. When the patient entered the hospital, she still showed fever and high leucocyte count. Her excitement persisted after the inflammatory signs had disappeared. On October 17, she received 1 ccm. adrenalin subcutaneously. The following are examples of her type of utterances at 10-minute intervals before and after injection:

A. Strange things happen, doctor. These women, oh, those old grandmothers, they make me sick. I would like to grab one of them now and hold her on my neck and kiss her. Why do you look so strange? You was a baby and I was rocking and talking one night and you wouldn't listen. Dr. Callahan, Dr. Callahan, I said Dr. Callahan, there is going to be peace on earth, Dr. Callahan. Oh, it's to protect the babies, not that other thing. Dr. Callahan, don't you remember anything this morning? You guys stand around all this morning. Oh, click her off. See that little fly? Do you see anything? Click her off. Fly in the ointment. I fight. I surrender. Put in the nails but not the spikes. Fight, spike, fight. See that woman? Oh, she ain't much of a woman, a little thing. We ought to work in the same hospital and fight a little because we got fighting blood. No, fight, you battle-man.

(After 10 minutes.)

A. You always make fun, don't you? I want you to ask a question. You won't tell for all of them, I don't think, and I hate to say before them and they will laugh behind my back. What did I do that was wrong? Tell me just one thing I did wrong. I mean to tell you a straight story and you laugh it off. You hurt me.

A. Well, I might have talked like that because I did. You had me in charge and I don't like to tell you because you laugh at me. I don't want to tell you. Just like that fly. If it would set there it wouldn't hurt but it seems like it sets there and it hurts. It annoys me.

(After 20 minutes.)

A. You jerk me around so much. I am afraid to tell you. You know you come to our house and make fun of me. I don't know why. . . . . I didn't know it though where you put me first. You done the first thing you could. You just pretty nearly scared me to death. You hurt me. You or the other man did. You squeezed my head and pretty near killed me. . . . . I didn't know it. That isn't much, though, is it? In this condition? Well, I am just awful sorry that I made you this trouble. I hope you will forgive me but I hope you won't. . . . .

(After 30 minutes.)

Q. Did you ever have the feeling your mind wasn't all right?

A. No, I never had it, that part, before. My head would hurt but then I would vomit it up and it would clear up again, vomit green stuff, but I haven't for the last five years.

A. Look out, I didn't mean to upset anything. Don't look at me. I feel like you just hate me. Everyone I look at just hates me and I don't know why. I'm sorry if I done anything wrong to you. You know I said I was sorry if I crossed you. I didn't mean to. I wouldn't say bad things to you if you was sick.

Q. It would be nice if you would get acquainted with some of these people.

A. They wouldn't want to talk to me.

(After 40 minutes.)

Q. When did your husband start to trouble you?

A. Well, it seemed right away, just married not long.

Q. What was the trouble?

A. Well, I don't know. I don't think myself we were ever adopted one to the other. He was too old and I was green.

Q. But you didn't leave him. When did you have your baby? Right away?

A. Three years.

Q. Why didn't you leave?

A. Well, I didn't think of it. When you have your children they make you spend your time with them.

Q. Was she a troublesome baby?

A. No, she was such a nice baby. He liked them at the first but seemed like underneath he didn't like them and they didn't like him.

From a rapid succession of poorly coherent utterances the patient turned towards a careful, hesitant, self-concerned, slightly apprehensive manner and communicated significant facts concerning the distressing life situation which had prevailed before her disease. Apprehension and mild depression markedly contrasted with the euphoria prevailing at the start of the experiment. Blood pressure and pulse rate showed but little change, as seen from Table I, column A.

TABLE I.

Z. A.

EXPERIMENT A, OCTOBER 17, 1933.
EXPERIMENT B, OCTOBER 24, 1934.

Time.	Pulse.		Blood pressure.		Psychological pattern.	
	A	B	A	B	A	B
0′	84	84	120/80	120/80	Excitement. Rambling talk.	Quiet. Contented.
15′	96	120	130/80	120/80	Increased concern.	Anxious. Restless.
30′	96	140	140/80	156/90	Orderly	Complains
45′	84	90	142/90	150/100	talk and	about tension
90′	72	90	120/80	120/80	conduct.	and heart pounding.

After about 90 minutes the patient returned to her previous type of behavior. The medication was repeated subsequently at intervals of several days, while the condition was improving step by step. On October 24 the patient, who meanwhile had permanently given up her rapid, incoherent stream of talk, began on the occasion of adrenalin injection to complain about nervousness, heart palpitation, anxiety, and restlessness. At this time the increase in both pulse rate and blood pressure was larger than at the previous occasion of adrenalin injection. (See Table I, column B.) When the patient's behavior became more adequate, and her occasional periods of childish and silly attitude disappeared, her reaction to adrenalin became more and more marked by disagreeable subjective symptoms. Marked anxiety, heart pounding, uneasiness, and apprehension were features which made her request the discontinuation of this type of medication.

It is evident that in this toxic, exhaustive psychosis the effect of adrenalin was always that of making the patient more serious and self-concerned but the degree of change was closely related to the type of adjustment at the moment of the injection and the amount of toxic factors prevailing at that time.

CASE 2.—J. H. A 36-year-old minister who entered the hospital because of a psychasthenic condition of long standing in which a handwashing ritual, a necessity to make sure the water faucets were closed and his trousers properly buttoned were the significant items. He was subjected to the experimental procedure under varying conditions. On March 29, he received an injection of 1 ccm. of adrenalin in the early morning, at a time when most of our therapeutic conversations had been spent listening to his accounts of the various obsessive phenomena disturbing him. His attitude was that of a certain academic, abstract detachment from his symptoms, and he was able

to talk about them as if he were describing the difficulties of a third person. His reaction to adrenalin was the following: The patient's blood pressure and pulse curve showed but little change. (See Table II, column A.) The

TABLE II.

J. H.

EXPERIMENT A, MARCH 29, 1934.
EXPERIMENT B, MARCH 30, 1934.

Time.	Pulse.		Blood pressure.		Psychological pattern.	
	A	B	A	B	A	B
0′	72	64	130/80	142/82	Quiet.	Tense.
5′	68	72	135/80	158/80	Remains quiet.	More tense.
10′	68	68	140/85	124/80		
20′	70	68	140/85	124/82	Complains about slight restlessness.	Marked increase of abnormal thoughts.
35′	72	70	140/80	136/80		
55′	72	74	120/80	146/92		Sits motionless. Silent.
75′	68	74	120/80	118/86	Inhibited.	Gradual relaxation.

patient became slightly more inhibited than he had been. His ability or eagerness to describe his symptoms decreased. He became rather sullen, slightly self-absorbed. As a whole, he felt slightly "more nervous" than usual but not seriously perturbed.

On the following day a detailed discussion was had with this man about the meaning of his symptoms. His attention was called to the fact that the objects of his obsessional thoughts might easily be interpreted as symbols of homosexual interest. The supposition was mentioned that in his life certain forms of homosexual gratification must have played a rôle, and under the pressure of the interview the patient reported with some resistance several episodes in his adolescence of homosexual activity, and felt forced to appreciate that he had the same type of interest in certain men around him at the present time. Although he did not show much display of affect during the interview, it was noticeable in the evening that he was more tense and less communicative than usual. The next morning the adrenalin injection was repeated. The patient's condition at first did not seem much different from that of the outstart of the first experiment. Tears appeared in his eyes. He stated that he felt very much worried, that the thoughts bothered him much more than usual, that it cost great effort to keep them out of his mind, and that he could not avoid saying over and over to himself certain thoughts. He showed marked trembling and was unable to sit still. He complained about being unable to speak about his thoughts. He felt extremely inhibited. Finally his activities and utterances were reduced to repeating the statement, "Dr. Lindemann, the window is closed." He sat stiffly, staring at the window near which he was sitting. After he had become less tense, he told that he could not help this, that he had done it

with the purpose of banishing from his mind the obsessive thoughts concerning a friend of his who had died recently and whom the patient had last seen in his coffin. In a subsequent interview it became evident that this man had been one of the persons with homosexual attraction for the patient. The change both in blood pressure and blood sugar was definitely more marked than during the preceding experiment.

In this instance a patient suffering from a chronic psychoneurotic condition had a definitely defined behavior pattern which showed different reactions to adrenalin, dependent upon the degree of tension which was related to the psychotherapeutic situation.*

CASE 3.—B. W. A 27-year-old, unmarried woman who, for 15 years, had been treated by various physicians for apparent hyperthyroid condition. She had a chronic state of anxiety with marked tremor, heart palpitation, feelings of tension, uneasiness, extreme fatigability, and marked responses to noises. She was convinced that she was suffering from a serious physical disease. A thyroidectomy had not changed her pattern of behavior and experiences. Her reaction to adrenalin injection in this condition on March 10 was that of extreme shock with marked trembling and anxiety. The patient complained about faintness with marked perspiration and showed the signs of threatening collapse. The blood pressure and pulse rate showed marked oscillations. (Table III, column A.)

TABLE III.

B. W.

EXPERIMENT A, MARCH 22, 1934.
EXPERIMENT B, MAY 2, 1934.

Time.	Pulse.		Blood pressure.		Psychological pattern.	
	A	B	A	B	A	B
0′	80	72	120/78	120/80	Complained of "burning nerves."	Quiet. Contented.
15′	112	78	72/45	130/80	Uncommunicative.	Little change.
30′	124	84	90/55	140/90	Threatened collapse.	Somewhat tense.
45′	140	96	160/100	140/90	Exhausted.	
90′	100	96	120/80	110/70	Still complaining.	No complaint.

*We felt satisfied that the interval between the two experiments was large enough to exclude the possibility that the change was due to an after-effect of the first injection. The longest period of noticeable change in any patient lasted about four hours.

With subsequent psychotherapy, which succeeded in finding a number of factors in this patient's previous life to which she had adjusted by a chronic state of anxiety, the patient began to appreciate that this anxiety had the function of protecting her from the requirements of an approaching marital situation from which, on the basis of childhood experiences, she shrank to the degree of panic. With this appreciation her symptoms, not appearing any more as expressions of disease but as part of an attitude in difficulties, vanished and she showed a marked increase of interest in outside activities. A repetition of the adrenalin medication on May 2 gave the following picture: The patient felt a mild degree of tension with restlessness but had very little tremor and anxiety. The blood pressure changed from 120/80 to 140/90. The pulse rate increased from 72 to 96. (Table III, column B.)

In this case a psychoneurosis of the anxiety-hysteria type, which is improved by alleviation of the underlying conflict situation, showed a marked difference of reaction to adrenalin injection on two different occasions, although the fundamental disease pattern was still present.

From these results it became evident that it was not sufficient to correlate any type of physiological or psychological alteration with the clinical diagnosis. The adjustment of the patient at a given moment, the relationship of his conflicts, and his resources for relief are important features in the situation.

In addition, this preliminary investigation furnished a certain amount of insight into the kind of alteration of behavior which appears under the influence of adrenalin; it seemed probable that symptoms which are related to a conflict situation such as hysterical anxiety and obsessive phenomena find an exacerbation under the influence of the drug, while symptoms which result from exogenous factors, such as drugs with sedative effect, seem to be reduced by the drug.

A better evaluation of these preliminary observations will be possible after a more comprehensive account of a variety of clinical observations.

The group of patients with whom we worked showed a fairly even distribution of clinical reaction types. The numbers of the different diagnoses are as follows:

Paresis	4	Depressions	6
Organic Dementia	4	Psychasthenia	2
Toxic States	4	Hysteria	6
Schizophrenia	8	Anxiety States	4
Mania	4		

The *first* question to be answered is the following: Are the most evident alterations of behavior following the injection of adrenalin seen in a certain type of disease, or do they refer to a certain stage in adjustment? The *second* question is this: Is the direction of several or all of the alterations characteristic for a certain type of disease, or can the same direction of alteration be noticed in all subjects independent from the disease they represent?

We noted the following: The most pronounced effect of the drug both physiologically and psychologically was noticed in patients who were under great tension and in whom a gradual change in adjustment occurred during the stay in the hospital. *Schizophrenics* who had settled down to a state of apathy with well-developed phantasy life showed practically no change.

CASE 4.—S. The patient had developed five years ago after a period of acute excitement a system of delusions. There was a definite dilapidation of logic and language, frequent blocking, vorbeireden, and irrelevant remarks. The effect of adrenalin on two occasions was hardly noticeable in any respect. The patient appeared possibly a little more tense than usual. Corresponding with this result, the blood pressure curve, the blood sugar curve, and the chronaxy curve remained a straight line.

CASE 5.—The same was true for a young girl of 22 who, after an original period of excitement, had settled down to a state of hebephrenic apathy. Neither her stream of talk nor her behavior nor the degree of interest in the events around her showed any significant change upon the administration of adrenalin, and the same lack of response was indicated in the physiological field.

This lack of response, however, did not occur in other types of schizophrenia in which an active effort at readjustment is noticeable.

CASE 6.—N. A 22-year-old farmer was admitted in a state of catatonic stupor. He presented an unusual degree of rigidity, flexibilitas cerea, and no sign of response to the outside except for occasional grimaces or flickering of his eyelids. Adrenalin injection in this patient led to an extreme degree of stiffness with definite expression of general tension and to a very marked alteration of the blood pressure with a series of subsequent fluctuations. After the patient had been accustomed to the environment and had begun to eat and had reached a certain degree of apparent flaccidity, the blood pressure curve, the blood sugar curve, as well as the chronaxy curve were almost straight lines after the injection of adrenalin.

Another example of the type of remarkable clinical change which occurred after experimental application of adrenalin was the following:

CASE 7.—A 20-year-old man was admitted in a state of absorption in his own thought, preoccupation with auditory hallucinations, lack of interest in the outside, and with occasional impulsive outbursts. The picture was that of a hebephrenic condition. It was noticeable, however, that in this patient there were, also, signs of reaching out for help and of the appreciation that his present adjustment with preoccupation with his inner world was not suitable for permanent adaptation. In the course of his stay in the hospital, we were able to follow the gradual development of delusion formation. He began to think that he was being fed human flesh and showed some increase in his withdrawal. When he entered the experimental situation, the patient was hesitant, appeared somewhat inhibited, but was able to speak and report thoughts concerning his father in which he pictured him being hurt. Under the influence of adrenalin the patient's behavior and utterance showed a definite change. He became more withdrawn, his communications became abrupt and fragmentary. He became more and more rigid and assumed a catatonic-like posture, holding himself stiffly and avoiding any spontaneous motion. To passive movements he presented a marked degree of resistance. After 90 minutes the state of tension ceased. The patient began to speak again and mentioned that he had been terribly afraid because his thoughts had become so powerful that any movement that he might make in this condition would kill his father.

Here we found that a very pronounced state of motor and speech inhibition followed the use of the drug.

A marked degree of change in behavior, both physiological and psychological, was also noted in other reaction types. The typical response in all eight cases of *psychoneurosis* was that of an increase in symptoms, varying in degree and dependent upon the patient's attitude in the situation.

CASE 8.—The most marked reaction was presented by a woman (H. K. 34 years old), who had had for years psychoneurotic difficulties in the form of feelings of fatigue, tension, and mild anxiety. She had taken a variety of drugs and had come to us in a state of confusion with fleeting hallucinatory experiences. Adrenalin, when administered during this time, on February 18, produced a more critical attitude towards her own statements, a reduction in her communications, and a greater efficiency in orientation and intellectual operation. After the recovery from the drugs, the patient developed a rather tense and irritable condition. The physiological changes are shown in (Table IV, column A).

On March 21 she again received 1 ccm. of adrenalin. The result was an alarming shock reaction with very marked variations in blood pressure (Table IV, column B), in blood sugar, extreme panic-like anxiety with subsequent fatigue and exhaustion. After the recovery from the adrenalin effect, the patient showed a rather silly, childlike and playful attitude.

An even more striking feature is the production of actual psychoneurotic symptoms and the reactivation of symptoms which have subsided temporarily during the stay in the hospital. Two examples of this type should be mentioned.

TABLE IV.

H. K.

EXPERIMENT A, FEBRUARY 18.
EXPERIMENT B, MARCH 21.

Time.	Pulse.		Blood pressure.		Blood sugar.	
	A	B	A	B	A	B
0′	84	120	120/80	115/75	80.0	80.4
10′	96	90	130/85	175/195	93.0	190.5
20′	96	110	130/90	90/45	95.2	190.5
30′	84	60	120/80	135/110	125.0	165.1
40′	72	130	120/75	145/75	117.6	146.
60′	72	120	120/80	115/65	117.6	115.0

CASE 9.—G. B. The patient had entered the hospital with the report of twilight states of hysterical nature, when he moved around in a dazed condition, acted rather childishly, and frightened his wife by feigned aggressions against her and his mother by childish sexual activity before her. The difficulty had developed two days after his marriage on the basis of an

TABLE V.

G. B.

EXPERIMENT A, APRIL 7, 1934.
EXPERIMENT B, APRIL 12, 1934 (UNDER HYPNOSIS).

Time.	Pulse.		Blood pressure.	
	A	B	A	B
0′	84	72	110/60	95/60
10′	96	84	140/70	90/60
20′	120	84	165/80	120/80
30′	120	84	145/70	120/80
40′	108	72	140/70	110/70
60′	96	72	130/70	110/70

attachment to his mother, whose over-solicitous care had facilitated an infantile method of sexual adjustment. At the time of the experiment the patient felt sure that he would never have any relapse. Under the influence of the drug, he complained about extreme fatigue with some feelings of uneasiness and tremor. In the course of 20 minutes he began to be drowsy

and sleepy, and developed a sleeplike condition similar to the type which he had had as a spontaneous symptom before entering the hospital. The experiment made it possible to remind him of the fact that his predisposition to such attacks had not ceased.

The patient, who had been treated a year before in this hospital because of a functional paralysis of his arm and later because of hysterical twilight states, was examined after the use of adrenalin in two situations, once under ordinary circumstances and once under hypnosis. While the first injection led to definite subjective feelings of tension and fatigue, no changes were recorded during the hypnotic state. The physiological changes were definitely different in the two conditions. (Table V, columns A and B.)

CASES 10 AND 11.—A similar reactivation of symptoms became evident in two other patients, both women who were suffering from hysterical monoplegia. A control injection of saline solution in both of them had no such effect.

A pronounced manifestation, most noticeable in our psychoneurotic subjects, was the feeling of nervous uneasiness, heart palpitation, trembling, and agitation. In two patients with anxiety neuroses there was a definite increase of anxiety. An example is the following:

CASE 12.—J. G. This patient had entered the hospital because of feelings of panic and fright which made it impossible for him to join any group. There was an acceleration in his heart activity, trembling, and uneasiness which made it necessary for him to stay at home and to avoid the usual forms of recreation. In our interviews a number of features in his early experiences relating to exhibitionistic tendencies had been revealed. Under psychotherapeutic treatment the patient had had a marked degree of relief. The administration of adrenalin reproduced a marked anxiety attack combined with discouragement and depression.

Increased tension and aggravated feelings of frustration were noticed in several patients suffering from agitated depressions. An example is the following:

CASE 13.—M. H. The patient is a 38-year-old woman who developed feelings of depression and tension three months before admission. In the hospital she was at times under tension and paced the floor and picked at herself, but she was able to read and apply herself to embroidery work and other activities. Under the influence of adrenalin there was a marked exaggeration of her symptoms. She was unable to sit still, wrung her hands, moved around continually, spoke in a forced, anxious way, complained bitterly about the feelings of extreme tension and dissatisfaction and the same day made abrupt attempts at suicide.

CASE 14.—Another 38-year-old woman, W. R., showed the same exacerbation of her symptoms.

The changes due to adrenalin observed in patients in whom an organic factor, either brain disease, vascular changes, or drugs, had been responsible for disturbances in adjustment show a certain difference from those mentioned above. In euphoric, unconcerned, distractible patients, particularly in paretics we saw a reduction of their overactivity with increased concern about the relevance of their statements. The emotional shallowness characteristic for paretics disappeared temporarily.

We found, however, that under certain conditions adrenalin injection leads to a sudden outbreak of excitement, probably on account of the reduced safety margin of such patients. Both types of change are portrayed in the following example:

CASE 15.—H. C. A 36-year-old school principal was admitted because of carelessness about his school work, undue talkativeness and lack of reserve in his statements, and because of his inability to keep appointments. In the hospital we found a mild memory defect, the typical over-familiarity, talkativeness, and friendliness of beginning paresis and the characteristic physical features. He was given adrenalin subcutaneously. The gushing, over-talkative and over-familiar ways of the outset changed to concerned, careful statements in which worry as to whether or not he would win the appreciation of others became a significant feature.

After malaria treatment this patient was examined again. At that time he had developed paranoid notions and had been making remarks that other persons were talking about him and maligning his character. He also had shown a certain degree of irritability. At the onset of the second experiment, he was friendly and fairly talkative and at first it seemed as if an increase in concern would develop as it did during the first experiment. After 10 minutes' observation, there was, however, an abrupt change. The patient developed a state of extreme excitement and gave out a tirade of curses and scoldings against the examiner, attendants, and nurses. After a while the patient regained his reserve, apologized for his behavior, and expressed regret for having lost his self-control.

In this case we had to exclude the possibility that the mere fact of injection might have precipitated such excitement. A control test with the injection of saline solution did not have any effect on his behavior.

CASES 16 AND 17.—In two patients of rather marked deterioration and unconcern, no effect of the drug could be demonstrated. It seems to us

to be an important finding that mainly in the milder forms of certain reaction types, and mainly in patients with a tendency to gradual change in reaction pattern the remarkable modifications of change in behavior can be demonstrated.

Of particular interest is the modification in behavior which one noted in manic patients. A typical example is the following:

CASE 18.—I. S. The patient, who at the entrance of the examination was gushing and talking in a distractible way about numerous items which she happened to see, became more and more deliberate, hesitant, and uncommunicative. She began to worry whether or not her statements were polite enough, and described vividly her feelings about the situation. After a period of about an hour and a half of very adequate emotional attitude, with appreciation of her own short-comings and eagerness to please the examiner, the patient returned not only to her previous degree of manic excitement, but showed a marked exacerbation of it which continued for about a day.

A similar observation was made in another young girl.

CASE 19.—R. Th. 19 years old. The patient showed a more marked degree of excitement and the reduction in activity was quite noticeable at first, but later she became angry and antagonistic.

These findings are of particular interest because the same change is seen in both manic patients and paretic patients with the manic form of adjustment.

The problems presented by our observations are complicated by findings of special interest, namely, *the modifications of "reaction types."*

The most striking examples of this alteration of behavior were presented by three patients, who, on the basis of a senile and involutional change, had developed a paranoid attitude. In all of them the concern about their persecutors and the attitude of outsiders shifted under the influence of the drug to concern about their own condition. The apparent equanimity accompanying their paranoid suspicions was replaced by extreme anxiety, depression, and suicidal attempts. Two examples of this condition may be cited here.

CASE 20.—L. C. A 56-year-old woman had had a poor marital adjustment but had compensated for it by a very active public life, being the chief representative of a large national organization. She had developed during the three months before her admission a marked paranoid reaction, claimed that her family turned against her and were planning to take her property

away from her. She was able to speak about this easily. Under the influence of adrenalin there was a marked change. The patient became depressed, cried, apologized to the examiner, and brought out detailed evidence that during the last year her efficiency had been failing, that she could not occupy any more the place she had held, and that she might as well die if she was no good. She apologized for her suspicions but did this with extreme tension, and made several abrupt attempts at suicide.

CASE 21.—Similar changes occurred in a man of 58 who had been admitted because of paranoid suspicions and who had been sitting in the ward most of the time preoccupied with thoughts about his persecutors but with a complacent, self-absorbed air. Under the influence of adrenalin he showed marked depression, fear of death, claimed he was doomed to die, that there was no hope for him, and that he had to suffer for his sins.

It is striking to see in all of our patients how much the emphasis was shifted from the outside world to their own selves.

Summarizing our clinical observations, the following may be said:

A. The most marked changes in behavior occurred in *mild* forms of abnormal reaction types, and in patients whose adjustment has not yet become stable. Thus, acute schizophrenics and active psychoneurotics showed marked changes while apathetic schizophrenics, psychasthenics with well settled symptom patterns, and deteriorated paretics in defect-condition showed either very limited or no alterations in behavior.

B. The changes are of different types in different phases of adjustment. 1. Common to all is the reduction in motor and speech activity, the appearance of *subjective* symptoms of anxiety and related cenesthetic sensations, and increased concern about themselves with more critical attitude towards their own reactions. 2. The effect upon clinical symptoms is such that hysterical symptoms, anxiety, phobias, and distortions of reality of functional origin seem to be reinforced by the drug, while overactivity, hyperprosexis, and distractibility are reduced to more "normal" measures. A definite reduction of over-activity and "improvement" of the superficiality and undue euphoris was found in both paretics and manics, conditions of an expansive kind.

3. The tendency to increased self-concern and to a shift of interest from the outside world to the patient's own body and actions with better critical judgment, leads to an apparent change in reaction type in several cases of paranoid condition on an organic basis.

If we had only the aim of a clinical study, our investigation might be concluded with this summary: We might comment on the practical implications of our findings and leave the search for the theoretical background to the physiologists.

In psychopathological research the attitude is different. We must consider our observations as the first basis for clarification of our concepts and methods.

We now have to formulate a psychopathological hypothesis to account for the observed changes in behavior and experience and we have to test it by experimentation; this will be the only way of establishing new knowledge about the biology of behavior patterns.

In the second part of this study an attempt will be made in this direction. Our account must be brief in this presentation in order to keep within the limits of one paper (a more detailed account will be given in a special study later).

Psychopathological Considerations.

The most important inference from our clinical observations is the following: The presence of adrenalin in the organism seems to affect the person's distribution of interests and his attitude towards events around him, as contrasted with his inner experiences.

We apparently are dealing with factors which concern the "affect" of a person rather than his "cognitive" functions. We, therefore, need some basic concepts to deal with matters of "interest," "concern," and "action in the desired direction."

From our observations, it would seem that in the different patients studied there can be noticed a tendency to turn away from outside interests and become absorbed in self-control factors. Worries about the validity and propriety of one's own actions, anxiety, and the development of new symptoms within the body were characteristic features. A person's activities under the influence of adrenalin suggest that the balance between subjective and objective determinants of his behavior are shifted in favor of subjective determinants. We may now study a number of activities of our patients to find in what way this change manifests itself. Two questions may be asked: Firstly, if adrenalin has been injected, is in all situations the amount of action directed towards the outside decreased in favor of action concerned with the per-

son's own body or functions? Secondly, are subjective factors representing conflicts and resulting from previous failure and frustration, as well as from unfulfilled wishes, more noticeable in both perceptive action and motor action than before the application of the drug?

It is obvious that the source of evidence in this respect cannot be a battery of performance tests. The shortcoming of all performance tests is that they say something about the efficiency of an action and nothing about the way the action is performed.

A high degree of spontaneity and freedom of choice will be necessary to permit an adequate interpretation of a person's behavior.

What we needed was a set of tasks which aroused enough interest in the subject to serve as a goal of activity and which gave the subject the possibility of choosing his mode of action from a wide range of procedures. We attempted to find some ways of approach to these problems but realize that they need a good deal of refinement. We selected five patients in whom the changes were clearly demonstrable. Only a brief and preliminary account of this work can be given here.

I. To measure the amount of goal-directed activity of a person, the ideal arrangement would be a movie-tone apparatus. This not being available, we had to be content with recording the significant activities and utterances, including the statements of the experimenter, having an assistant mark from a stop watch the time units in the record. With this arrangement it is possible to count the number of remarks and utterances per minute and to compare the amount of speech activity before, during, and after the experiment.

Several varieties of speech inhibition were demonstrated by our patients. There appeared long periods of silence and marked pauses (35 or 40 seconds) before every answer; there was a tendency to briefer sentences and to one-word responses.

To demonstrate the marked extent of speech reduction, we have arranged five typical examples of speech reduction in our subjects in Table VI.

II. In order to study the reduction in activity in terms of retardation of action, the well-known association test devised by Jung and later revised by Luria [21] was utilized, and the latency periods for speech action following the presentation of a series of words were

recorded. Examples for the marked increase in latency period during the effect of the drug are seen in Table VII in which the sum of the latency periods following 20 stimulus-words is presented.

III. Consecutive execution of a simple arithmetical task, requiring repetition of the same process in the form of a series of subtractions of 7 from 100 was suitable to show variations in the patient's attitude toward his own performance. The important feature noticed was increased concern about the performance;

TABLE VI.

NUMBER OF WORDS SPOKEN BY THE PATIENT DURING A PERIOD OF FIVE MINUTES.

Patient.	Before adrenalin injection.	After adrenalin injection.	After recovery.
E. T.	230	150	330
J. A.	100	12	82
J. G.	250	50	272
M. H.	180	42	86
I. S.	243	130	303

TABLE VII.

LATENCY PERIOD.

Patient.	Before adrenalin injection.	30 minutes after adrenalin injection.
E. C.	34 seconds	52 seconds
E. D.	135 seconds	185 seconds
A. B.	28 seconds	42 seconds
M. B.	48 seconds	68 seconds
D. S.	66 seconds	150 seconds

new methods of calculation were applied. Pencil and paper were requested as an aid by subjects who did not worry about their performance before the administration of the drug. By one subject, the series was carried through correctly before and after the drug intake but the hesitation was greater, leading to a difference in the time of the performance; for instance, 31 seconds were necessary for the first attempt, 55 for the second.

IV. We were interested in the relationship of self-references and object references. In order to add to the results of simple observation, the subjects were confronted with two opportunities for free

interpretation. We requested the description of two pictures, both of which were used previously in a study of dream dynamics by Malamud,[23] and the interpretation or application of a proverb: "The chain is as strong as its weakest link." The nature of our findings may be indicated as follows:

A. A number of items in the picture mentioned before the administration of the drug were omitted under its influence; for instance, the fact of nursing in the picture of a Madonna nursing her child, the presence of the knife in the picture of Medea preparing to stab her children.

B. Obvious items which had been described correctly before the drug was given were substituted for by others: the Madonna is described as giving the bottle to the child, the children in the picture of Medea are described as pigs.

C. Under adrenalin there appears a marked tendency to bring in items of the patient's own life.*

Summarizing the few indications furnished by this study, we may say that an appreciable tendency to reduction in activity, delay of response, increased self-concern could be demonstrated in the various patterns of behavior manifested by our subjects under the influence of adrenalin.

Discussion.

Both the clinical and laboratory investigations suggest that a characteristic change in adjustment occurs following the administration of adrenalin. *It is determined in measure and quality by the concrete life situation and type of adjustment at the moment of the experiment.* The degree of the change was found *not* to be related to certain *types of diseases* but to the *process of adjustment* prevailing in the patient. A person under emotional tension will be thrown into more marked "disease" by the drug, while others remain unperturbed.

*We see a tendency to falsify the pictures in a way reminding of the falsification of recent experiences which has been demonstrated to be present in dreams (cf. Malamud[22]). The same phenomenon may be the resultant of two different dynamic situations: in dreams reduced demand for accuracy; under the influence of adrenalin increased pressure for falsification.

The main effects in clinical terms are anxiety, self-concern, aggravation of conflict sustained symptoms. On the other hand, in patients where the conflict tension is suspended, either through drugs or through the effects of brain disease, the symptoms are reduced.

Under the influence of the drug the subject's actions are directed mainly towards inner experiences, the body, his own acts, and less toward outside objects, tasks, and other persons. Accordingly, we find reduction of acts toward the self of the subject. The subject becomes less accessible, more self-absorbed, and his activities are colored more by fears and desires.

We were able to follow the effect of the drug in various types of adjustment and were able to show the delicate interaction of different factors in conditions where the adjustment is labile. The great variety of reactions seems to have a common denominator which explains at least in part the somewhat contradictory results of other workers.*

It is impossible to follow out here all the theoretical implications of the work. Important is the relationship to Cannon's physiological observations. Our findings in the psychopathological field represent significant features of emergency reaction. This reaction in our subjects is not the result of the occurrence of an alarming event in the environment which would necessitate flight or aggression. Instead we have an increase of inner tension, an exaggeration of instinctual needs with the aggravation of conflicts, and increased awareness of restrictions and taboos. The emergency situation is the unbalance of increased drive without any corresponding increase in obtainable goals or avenues for direct action by aggression or flight.

It is most instructive that the changes observed after adrenalin injection in our patients represent significant features which Freud has described as resultants from increased tension if unsatisfied needs and unsettled conflicts are activated by certain traumatic experiences.

* We do not intend at this time to discuss the relationship of our findings to the observations concerning the effect of adrenalin made by research psychologists seeking a theory of emotions.

We can interpret the effect of adrenalin as increase in instinctual pressure which has to be balanced in two ways:

(1) Self-concern outweighs object concern. Fear of pain and the need of pleasure show themselves more markedly in the person's actions and evaluations.

(2) The immediate discharge of this additional tension in the form of direct, more primitive action, for instance, aggression, is not possible without harm. We, therefore, see explosion of affect only in a few patients. The more frequent changes are the protective measure to balance the increased tension in some less harmful way. Hence, we find anxiety as a signal of danger, inhibition as prevention of an undesirable direct action, and frustration and aggravation of symptoms as manifestation of increased conflict tension.

We do not claim to have discovered in this study any new fundamental truth. We do not even believe that we contribute as yet a set of well-established facts. Our main purpose was to find a starting point for further experimental investigation. The value of this type of work seems to be that it opens up new problems tangible enough to be attacked in laboratory work. Much work will have to be done to verify our claims. It is quite possible that the changes are not specific for adrenalin, but may occur after other types of disturbances of the vegetative equilibrium. One avenue of further research should be mentioned. The effect of adrenalin presents itself as a variety of changes in psychopathological behavior which have a definite dynamic structure, namely, withdrawal from the outside and reinforcement of inner experiences. This dynamic process shows a striking similarity to the effect of certain drugs known for their marked influence on behavior and experience, particularly mescalin. De Jong has called attention to the fact that the latter drug has a chemical structure similar to adrenalin itself. The question arises whether or not the similarity in effect may correspond to the similarity in chemical action, and whether or not under certain circumstances mescalin may appear within the body as a product of adrenalin metabolism.

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THE THERAPEUTIC USE OF DINITROPHENOL AND 3:5 DINITRO-ORTHO-CRESOL IN SCHIZOPHRENIA.*

(Preliminary Report.)

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Researches of recent years indicate that schizophrenia is characterized by depressed oxygen assimilation.[1, 2, 3] That this may have some etiologic importance is suggested by the fact recently emphasized by McFarland [4] that partial deprivation of oxygen tends to produce in normal subjects a number of the abnormalities of behavior that are seen also in the schizophrenic picture. These include defective judgment, depression of autocritical ability, retarded perception, perseveration, restrictions in the field of attention, and deficiency of ethical inhibitions. Other "schizophrenic" traits occasionally seen are silly laughter, anger without adequate cause, destructiveness and mental confusion. Psychological tests under higher degrees of oxygen deficiency have shown lack of skill in motor performance, increase of discrimination time and slowness of association; hallucinations, delusions and stupor have also been observed under these conditions. Bagby,[5] in terms reminiscent of Kraepelin, ascribes the total picture to "lessened integration in the central nervous system"; he also comments on the "very primitive emotional behavior." Our experience tends to lay special weight on the fact that the schizophrenic as well as the normal subjects under oxygen deprivation show an ability by special effort to "pull themselves together" for brief periods.

The similarities noted do not, of course, constitute proof of identity of etiology. While it is true that the consumption of oxygen by the tissues is reduced in both cases, the mechanisms whereby the reduction is brought about are obviously different. Furthermore, mere decrease in the oxygen consumption tells us nothing as to which tissues contribute to the reduction. Neither does moderate depression of oxygen over a long period necessarily equate with a great depression over a short period.

*Read at the ninetieth annual meeting of The American Psychiatric Association, New York City, May 28–June 2, 1934.

Irrespective of theory, however, the facts that schizophrenia is characterized by reduced oxygen intake and that oxygen deprivation leads to manifestations of "schizophrenic" behavior constitute a "lead" for further study of the therapeutic effects of increased oxygen assimilation in the psychosis. Hoskins and Sleeper,[6] and more recently Lingjærde,[3] have reported beneficial results from vigorous thyroid medication. This drug, however, has a variety of effects not necessarily due to stimulation of oxygen consumption. We were interested, therefore, to make a study of the utility of a drug the essential effect of which is, so far as known, merely stimulation of oxidative processes. Accordingly, a group of 10 patients has been subjected to treatment with dinitrophenol and later with dinitro-ortho-cresol.

That compounds of this type have a marked influence upon the metabolism has been known for nearly half a century, but only recently have attempts been made to utilize them therapeutically. Dodds and Jackson experimented with numerous nitrophenols and nitrocresols on guinea pigs. It appeared that, as a class, they caused increased oxygen consumption and, if employed in sufficiently high dosage, hyperpyrexia and death. On the basis of these studies, Dodds and Robertson [7] selected the 4 : 6 dinitro-o-cresol as the most promising for clinical use. In the meanwhile Tainter and his collaborators [8] had independently begun a series of studies using the dinitrophenol. It now seems to be sufficiently established that within suitable limits of dosage both drugs cause a marked accentuation of oxidative reactions throughout the body and usually without deleterious side effects. The increased combustion, of course, if not compensated by increased food consumption leads to loss of weight.

There is reason to believe that in recent months dinitrophenol has come into extensive use in this country, either with or without the cooperation of physicians. Within this period a few deaths have been reported. A fatal case was noted by Geiger [9] and afterward reported in some detail by Tainter and Wood.[10] The subject, a physician who had a delusion of lues, took a single dose estimated as amounting to 62.5 mgm. per kilo in a presumed attempt to set up a therapeutic hyperpyrexia. He succeeded to the extent that death ensued with a rectal temperature shortly thereafter in excess of 115° F. Poole and Haining [11] recorded the case of a girl of

25 who, without medical advice, took dinitrophenol for obesity. For several months she had been taking thyroid in subeffective dosage. Whether this contributed to the fatal outcome is indeterminate. The girl presumably began with a daily dosage of about 3 mgm. per kilo, increasing in four days to 7.2 mgm. per kilo. In five days the probable total amount taken was 2880 mgm. She developed fever, restlessness, headache, pains in the limbs, vomiting, violent sweating and deep rapid breathing and died in coma. At autopsy evidences of degenerative change were noted in the liver, as was true also in Tainter and Wood's case. A third fatal case is that of Masserman and Goldsmith.[12] The patient, an obese negress, received the drug in increasing doses up to 5 mgm. per kilo daily. An autopsy was not secured until four days had elapsed, hence the findings were not very informative. A careful reading of the report leaves one not entirely convinced that the death was actually due to the dinitrophenol administered.

So much for fatalities. Tainter [8] has reported that about 7 per cent of his patients showed unpleasant skin reactions, and Frumess [13] has reported a case of severe allergic responses with marked urticaria.

The drug, then, would appear to be effective and potentially dangerous, but perhaps not more so than potent drugs, generally. How much attention will have to be paid to side reactions remains for further study to determine.

During the progress of our work Masserman and Goldsmith [12] published the results of a study of the pharmacologic and therapeutic effects of sodium dinitrophenol in 18 patients. As a group they were characterized by sluggishness, passivity and apathy. The ages ranged from 18 to 40 years. The criterion of selection was, "A change within the previous year from an outwardly satisfactory and adaptable mental state to one characterized by listlessness, indifference, mild depression, and otiose lethargy." The dosage at the beginning was 60 mgm. and this was usually increased by a like amount every third day until either a maximum of 5 mgm. per kgm. was reached or until adverse symptomatology appeared to contraindicate further treatment. An average rise of 32.9 per cent in the rate of oxygen consumption was obtained, with a mean weight loss of 417 grams per week. In five cases toxic effects were noted including fall in blood pressure, tachycardia, acidosis.

progressive stupor and, in one case, death. In eight cases the results were indeterminate; in four the clinical condition was regarded as less favorable while six patients showed a definite improvement in their mental condition, coincident with the medication. The authors conclude that dinitrophenol is unpredictably toxic to some patients but that its administration may be beneficial in certain types of recent and insecurely established psychobiologic underactivity.

Observations on Dinitrophenol.

Our studies were made on 10 patients selected at random from a larger group many of whose characteristics have been previously reported.[4] All but one were in a chronic stage of the disorder, the period of hospitalization ranging from $1\frac{1}{3}$ to $15\frac{2}{3}$ years. The group included two catatonics, one paranoid and seven in whose cases the differential coloring was not sufficiently definite to justify allocation to primary Kraepelinian categories. The ages ranged from 23 to 40 years. The aim was to produce the maximal increase in oxygen assimilation that could be obtained without undue loss of weight. To this end the dosage was adjusted to a level of 3 to 5 mgm. per kilo of body weight. For the patients who showed any marked tendency to lose weight supplementary feedings were prescribed. The treatment was continued for six to seven weeks.

Thirty metabolic features were investigated and psychiatric notes on the patients were filed weekly. In all but three cases several psychometric tests were made before, during, and after the medication period.

In Table I are set forth the results as regards the eight of the organic variables that were studied in which changes were noted that, upon analysis, proved to be statistically significant. The oxygen consumption rate showed an average increase of 28.5 points in terms of prediction from surface area. Since the base line was below 100 the relative increase was somewhat greater—up to 50 per cent in various cases. The mean weight loss for the period of medication was 1.3 kgm. The rectal temperature was a half degree higher at the end than at the beginning of the medication period. Some of the patients mentioned a feeling of warmth. That the circulation showed compensatory increase in efficiency is suggested by the fact that the arm-to-carotid circulation time was

reduced by approximately 4 seconds (unpublished results of Dr. H. Freeman), though neither the pulse rate nor the blood pressure was significantly affected. The venous non-protid nitrogen and uric acid were increased as was the venous pH. The total nitrogen output was augmented by 2 gm. daily—representing mostly supplementary food but probably to a minor degree also body tissue catabolism. When tested by the Fisher "t" method [15] for small samples it was found that differences as great as those noted would have occurred as a matter of random chance less often than once in a hundred times.

TABLE I.

ORGANIC CHANGES DURING DINITROPHENOL MEDICATION.

Variable.	Mean pre-med. value.	Mean change.	"t."	P.
NPN—Ven. Mgm./100 cc.	30.17	+ 4.9	3.2	.01
Uric Ac.—Ven. Mgm./100 cc.....	2.73	+ 1.4	10.7	< .01
pH—Ven.	7.39	+ 0.05	5.3	< .01
Total Urin. N. Gm./24 Hrs.....	10.47	+ 2.0	2.7	.02
Rec. Temp. °F.	97.94	+ 0.5	8.1	< .01
Circ. Time—Sec.	25.20	− 3.9	3.0	< .02
Weight (Kgm.)	59.24	− 1.3	3.8	< .01
Oxygen Rate, % of Prediction..	88.33	+ 28.	7.1	< .01

Two other variables, namely, hemoglobin per hundred cubic centimeters and venous lactic acid gave indication of possible changes that might be established with larger samples. The lactic acid seemed to diminish during the medication. Probably correlated with this was a tendency to higher hemoglobin values. Both findings point toward increased oxidative efficiency. The metabolic data are reported in further detail elsewhere.[16]

The metabolic effects above mentioned were clearly defined except as to hemoglobin and lactic acid changes. All except the increase in the blood nitrogenous bodies were in the direction that would be anticipated if the drug were to have favorable therapeutic effects. As to its actual clinical value, however, our data do not yet permit any satisfactory conclusions. Two patients undoubtedly improved coincident with the use of the drug and regressed somewhat after it was discontinued. The improvement again was seen

upon subsequent use of ortho-cresol. As evidence, however, the cases are of very restricted value. One patient had been in the hospital only a year and a half and might well have improved without the drug. The other, a catatonic, had been in the hospital two and a half years. He was recognized, however, as "in a state of flux" and was showing definite improvement for a week before the medication began. As regards the other eight patients certainly no fundamentally significant change took place either during or subsequent to medication. There were various notes of increased irritability, of assaultiveness, or of better cooperation. None of these events, however, was unique in the history of the patients and the most that can be said is that the scattering manifestations seemed to be somewhat segregated chronologically during or shortly after the conclusion of the medication. This might have been a matter of coincidence. In previous studies with thyroid medication [6] it was noted that improvement was frequently ushered in by periods of increased irritability. The suggestion of similar manifestations in the patients under dinitrophenol is correspondingly interesting. It is planned to continue the study in the hope that sufficient evidence may accrue to permit a better judgment of its value.

It was hoped that the psychologic tests imposed would sharpen the picture, but the results were so influenced by the varying attitudes of the patients as to defy interpretation.

In a negative sense the observations are more impressive. None of the deleterious effects noted by Masserman and Goldsmith [12] have been observed. Not only was no circulatory depression seen but the circulatory efficiency was even improved. Furthermore in our patients the reaction of the blood shifted significantly toward the alkaline side, whereas the Baltimore investigators reported "acidosis" as having occurred in five of their cases. Our findings are consistent as indicating that, within the limits of dosage employed, the drug is harmless. We have seen no contra-indication to its further use.

Observations on Dinitro-Ortho-Cresol.

Our results with the ortho-cresol need but brief discussion. Dodds and Robertson [7] used the 4:6 compound whereas we em-

ployed the 3:5, the only one available to us.* The British investigators selected the 4:6 ortho-cresol as being relatively the least toxic and most potent of the series they studied. Our results confirm the advantage of high potency of the ortho-cresol compound. It also caused less decrease in weight for a given increase in oxygen consumption than did the dinitrophenol.

In one respect it differed strikingly from the dinitrophenol in its effect. The patients early developed a tendency to icteric tinting of the skin and scleræ. The suggestion was obvious that it might be causing damage to the liver but tests of the blood (after removal of the interfering color with ½ cc. N/10 HCl) gave

TABLE II.

ORGANIC CHANGES DURING DINITRO-ORTHO-CRESOL MEDICATION.

Variable.	Mean pre-med. value.	Mean change.	"t."	P.
NPN—Ven. Mgm./100 cc.	33.22	+ 4.6	20.5	< .01
pH—Ven. Mgm./100 cc.	7.37	+ 0.06	9.9	< .01
Lactic Acid Mgm./100 cc.....	10.58	− 1.80	9.6	< .01
Venous CO_2 vol. %.....	58.69	− 5.15	8.4	< .01
Total Urin. N. Gm./24 Hr.....	12.47	+ 1.84	11.6	< .01
Weight (Kgm.)	60.30	− 0.7	6.9	< .01
Rec. Temp. °F.....	98.36	+ 0.3	13.3	< .01
Oxygen Rate, % of Prediction..	85.80	34.	47.8	< .01

normal icteric indices and the van den Bergh tests were negative. When the drug was discontinued for two days the discoloration disappeared. Thereafter, brief rest periods were interposed and served to forestall repetition of the tinting. Perhaps in practical use the tendency to color the skin might be of advantage as affording an easily recognized danger signal.

In Table II are set forth the chief data secured as regards the organic variables. In general the effects were quite similar to those of the dinitrophenol. The venous carbon dioxide, however, was definitely decreased in this series; whereas, only a suggestion of such decrease was noted in case of the dinitrophenol. Even though

* These two compounds are identical. The point in the ring taken for numbering being in one case the OH group and in the other the adjacent CH_3 group.

the dosage was only one to two milligrams per kilogram, as compared with three to five milligrams in case of the phenol, the oxygen consumption rate was increased 34 points as compared with 28. Whereas the phenol gave only suggestive data as regards decrease in lactic acid the decrease with the cresol was definite. The increase of uric acid seen with the phenol was not apparent in the later series. This may be correlated with the fact that the weight loss was less. The circulation time was not studied in the cresol series. Judging then from the metabolic effects the ortho-cresol seemed to be the better drug of the two.

In general the same comments that were made in case of the phenol apply equally to the therapeutic effects of the cresol. The two patients who improved during the phenol period showed similar improvement under the cresol. The evidences of irritability in the other eight cases were perhaps less marked.

Summary.

A preliminary report is made of the metabolic and therapeutic effects of 2:4 dinitrophenol and 3:5 dinitro-ortho-cresol administered consecutively to 10 schizophrenic patients. Both drugs caused increase in the rate of oxygen consumption with various other metabolic effects indicative of increased oxidative efficiency.

The ortho-cresol proved to be the more potent but showed the property of causing discoloration of the skin and scleræ.

The therapeutic results were indeterminate.

Aside from discoloration of the integument by the ortho-cresol neither drug, within the limits of dosage used, caused any perceptible harmful effects.

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INVESTIGATION OF POLYURIA IN SCHIZOPHRENIA.*

By FRANCIS H. SLEEPER, M. D.

Polyuria may be due to excessive ingestion of water for physiological as opposed to pathological reasons. It occurs as a symptom in a variety of conditions, in several diseases of the kidney, in endocrine conditions such as acromegaly and hypopituitarism, and in many functional and organic nervous diseases among which hysteria, migraine, epilepsy, paralysis agitans, tabes dorsalis, and tumors of the central nervous system may be enumerated; it also occurs in diabetes mellitus, diabetes insipidus, and the so-called phosphatic and azotic diabetes. In some of the conditions mentioned above the chief factors in causing the polyuria are primarily physical in nature, in others nerve mechanisms are predominant. Recently Hoskins [1] reported polyuria as a frequent symptom in schizophrenia. The present communication deals with further studies on polyuria in this disease.

According to Rowntree,[2] the average urinary output in this country is between 1200 and 2000 cc. Most textbooks give the average output as 1500 cc. Under ordinary circumstances the urinary volume is dependent on the water intake and inversely proportional to the water loss through the skin, lungs, and intestinal tract. The amount of urine usually fluctuates considerably, the kidneys being particularly sensitive to changes in the water content of the body and being able within certain rather wide limits to accommodate to such changes. In health, however, the kidneys always extract sufficient water from the blood to act as a solvent for the solid constituents of the urine which must be excreted. Practically everything which has to do with water metabolism in the body may exercise some effect on the urinary excretion. The literature on the subject is voluminous and cannot be adequately discussed at this time. Excellent review articles on water metabolism have appeared in this country, notably by Adolph [3] and Rowntree.[2] As examples

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of the wide variety of factors which have been shown to affect urinary excretion, we may cite environmental temperature and humidity, body temperature, exercise, type of food ingested, degree of obesity, age, rate of blood flow through the kidneys, changes in kidney permeability, the chemical composition and physiochemical state of the blood—particularly changes in concentration of blood colloids, the state of hydration of body tissues, changes in the endocrine system, and lesions in the hypothalamus, in addition to cerebral control.

The interrelation of the hypothalamus and posterior lobe of the pituitary gland is still not fully understood, but on the evidence available it seems certain that they both are concerned with the maintenance of the water balance of the body. Pathological and experimental lesions in this vicinity frequently produce polyuria. The demonstration of nerve tracts connecting the nucleus supraopticus and the nucleus paraventricularis with the pars nervosa of the pituitary gland and the demonstration of a portal circulation connecting the pituitary and the hypothalamus offers some explanation of the rôle played by these structures in water metabolism. Whether polyuria is an irritative or paralytic phenomenon as far as the hypothalamus is concerned is not yet established. Cushing [4] states that it is commonly assumed to be paralytic but the familiar emotional polyuria would suggest its being irritative in origin. He further comments that not until it is possible to evolve some method of first stimulating and then destroying the definite cluster of nerve cells (presumably the supraoptic nucleus) which governs the response will the solution to the problem be obtained.

We shall now discuss briefly the evidence for the statement that polyuria occurs frequently in schizophrenia. During the past few years we have routinely measured the 24-hour urinary output of schizophrenic patients on our service at various time intervals. As being illustrative of the group, we may take a series of 92 male schizophrenic patients selected in the sense that they were all under the age of 50 years and had no physical disease detectable by the usual clinical and laboratory methods. The urinary volume for these patients ranged from 510 to 9140 cc. with a mean volume of 2532 ± 177 cc. and a standard deviation of 1702 ± 125 cc. In 26 normal control subjects, hospital employees living in an environment fairly comparable to that of the patients, the urinary output

for the 24-hour period ranged between 655 cc. and 2805 cc. with a mean of 1328 ± 83 cc. and a standard deviation of 692 ± 59 cc. The schizophrenic subject voids on an average almost twice as much urine as the presumably healthy control subjects.

In Fig. 1 the distributions of urinary volumes for the 92 patients

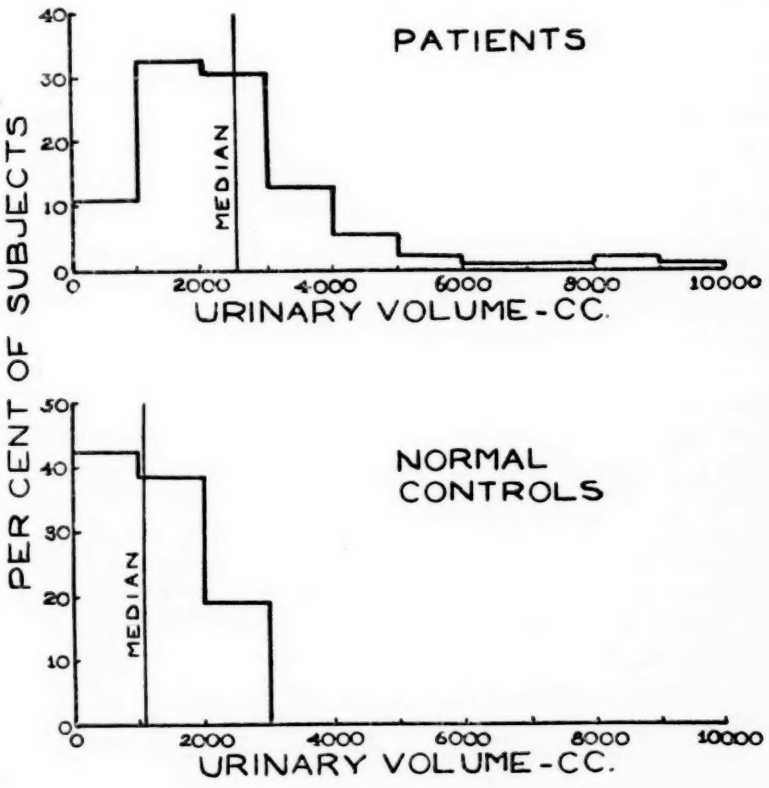

FIG. 1.

and 26 control subjects are arranged to show the percentage of subjects in each 1000 cc. step interval. Eleven per cent of the patients and 43 per cent of the controls voided less than 1000 cc., 34 per cent of the patients and 38 per cent of the controls excreted between 1000 and 2000 cc., 30 per cent of the patients and only 19 per cent of the controls eliminated between 2000 and 3000 cc.

No control subjects eliminated more than 3000 cc. while 25 per cent of the patients exceeded this amount. Eighty-one per cent of the normal control subjects excrete less than 2000 cc. of urine per day whereas only 45 per cent of the patients void amounts within this range. The conclusion that we are dealing with quite dissimilar populations as far as urinary volume is concerned cannot be avoided.

Do these patients consistently have a high urinary output or did we select a sample which was not representative and thus arrive at a false conclusion relative to the urinary output? We have found that for two 24-hour samples taken 24 hours apart on schizophrenic patients, the intra-class correlation of the urinary volumes is surprisingly high, being $.78 \pm .04$ and that over a seven-month period of study, in which six collections were made, the intra-class correlation is .70. We are justified in saying that the urinary volume for a given schizophrenic patient shows fair consistency. Patients who on one occasion void large amounts of urine will seldom be found to excrete small volumes of urine.

The greater part of the work discussed dealt with 24-hour urinary amounts obtained by catheterization. Does catheterization by a possible psychic effect alter the average urinary output of these patients? The question may be answered in the negative so far as average values are concerned, the average amount obtained by catheterization being 2532 cc., without catheterization 2496 cc., a difference of only 36 cc. which is not significant. In working with the individual patient, however, catheterization should be practiced, as marked changes in the volume may occur because of retention either at the beginning or at the end of the collection period. In dealing with a large series of patients, such differences tend to counteract each other.

Even a moderate restriction of water intake produces thirst and discomfort in patients suffering from diabetes insipidus. Is the polyuria occurring in schizophrenic patients brought about by the same mechanisms, but perhaps functioning to a lesser degree, which are operative in the production of the polyuria of diabetes insipidus? Fig. 2 shows the distribution of the urinary outputs of the 26 normal control subjects and the 92 schizophrenic patients arranged by quartiles, *i. e.*, each quartile represents 25 per cent of the subjects. The broken lines represent the quartile boundaries for the normal controls, the solid lines for the schizophrenic subjects. The

effect of water restriction on urinary output was studied as follows. Ten schizophrenic patients who had relatively high urinary outputs were selected from the 92 patients already studied. Urinary collections were made on the 10 patients daily for one week, they being on an unrestricted food and water intake. Their average daily urinary outputs ranged from 2205 cc. to 6791 cc. These findings are recorded on the chart as solid circles, the patients being numbered consecutively from one to ten.

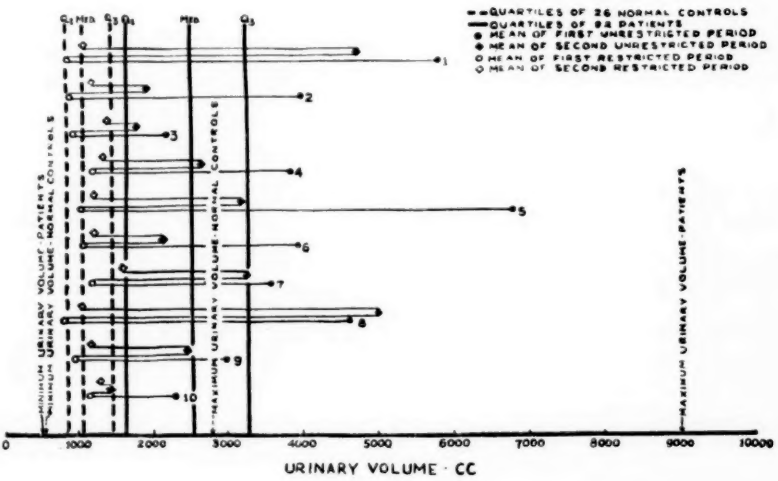

FIG. 2.

The ten patients were then placed for one week on a restricted 1900 calorie diet containing about 1900 cc. of water but only 640 cc. as such, the balance being calculated as water content of the food. Under this restricted water intake the *average* daily urinary output dropped to a range for the 10 patients from 820 to 1206 cc., represented on the chart as hollow circles. The urinary volumes of the patients were reduced to the point where they fell chiefly in the second and third quartiles of the normal controls; in other words, although on a very limited water intake, they still were voiding about the same amount of urine as the normal controls. The diminution of the urinary output occurred synchronously with the restriction of water intake in all cases. There were no undue complaints

of thirst, although exception was taken to the sameness and quantity of food. It would seem that the relatively small amount of water permitted was sufficient to allay thirst. In these schizophrenic patients under restricted water intake there does not occur the craving for water that is present in diabetes insipidus.

The experiment was continued for a third week, during which an unrestricted intake of food and water was permitted. During this period the urinary output increased in every case, the average volume being represented on the chart by solid diamonds. Inasmuch as none of the patients attained the initial level of urinary output prior to restriction of food and water intake, one perhaps is justified in assuming that habituation to low water intake may have played some part in causing this failure to attain the initial level.

Again during the fourth week of the experiment the patients were placed on a restricted diet of 2300 calories, containing 640 cc. of water as such and an estimated total of water of 2270 cc. The calorie intake was increased from 1900 to 2300 calories as the patients had lost an average of seven pounds under the lower calorie diet. The average urinary output again promptly reduced as represented on the chart by the hollow diamonds and again without undue complaints of thirst.

During these investigations various biochemical studies were also made, the results of which are reserved for future publications.

The question of the rôle played by the kidney in the production of polyuria in schizophrenic patients may be discussed briefly. Complete urine analyses have been made repeatedly on the patients with uniformly normal results. The excretory capacity of the kidneys as measured by the phenolsulphthalein output has revealed nothing abnormal. The ability of the kidney to keep the non-protein and urea nitrogen in the blood at a normal level is unimpaired. Whether the kidneys of these patients were able to maintain water balance between intake and output was considered worthy of attention. This is probably best accomplished by Pratt's modification of the Volhard and Strauss Tests. Pratt [5] gives the patients 1000 cc. of water while in a fasting state and with the patients in bed. Urinary collections are made each hour for four hours and four additional collections are made at two-hour intervals. The volume and specific

gravity of all samples are measured accurately, corrections being made for temperature on the specific gravity readings. The patients are allowed at 12.30 a meal of one boiled egg and two slices of buttered toast, and at 5.30 p. m. meat, potatoes, and bread. If thirst becomes intense, one glass of water after 6.00 p. m. is given on the day of the test. Relatively few results on control subjects are available. The average output in Schön's [6] series of seven subjects for the first four-hour period was 1059 cc. with a range from 875 to 1314 cc. In Pratt's series of 22 mild psychoneurotic patients with normal hearts and kidneys the average output was 888 cc., the range being from 219 cc. to 1596 cc. In 12 of the 22 patients studied by Pratt, the diuresis during the four hours exceeded the 1000 cc. of water ingested. In 15 of the tests, the specific gravity fell to 1.005 or less, and in the remaining seven ranged from 1.007 to 1.013.

Pratt observes that the widely varying results obtained on the different individuals in his series were to be attributed partly to constitutional peculiarities, partly to the state of the entire salt and water content of the organism at the particular time the test was made, and partly to psychic influences acting on the kidneys during the period of observation. He emphasizes the importance of extra-renal factors as affecting the results of the tests and advises repetition whenever abnormal results are obtained.

Under the conditions of this test, one usually finds a dilution of the urine in the first four hours, the specific gravity falling below 1.010, and during the following eight hours concentration to a specific gravity of 1.025. It is rather obvious that a failure to void a urine of low specific gravity and the usual amount of fluid in the first four hours may be due to partial dehydration of the tissues and this should be guarded against by a preliminary ingestion of fluid preceding the day of the test. By the same reasoning, pointed out by Pratt, an excess of water in the organism may prevent the kidney from demonstrating its ability to concentrate the urine.

We have made this test on 33 schizophrenic subjects. In only 4 of the 33 cases did the specific gravity exceed 1.010 in all four collections. Two of these subjects voided less than 700 cc., which is usually considered the minimum amount that should be voided under the stimulation of the 1000 cc. of water ingested. Both of these patients usually voided large amounts of urine. The

assumption may be justified that on the particular day of this test the patients were in an actual state of tissue dehydration. Repetition of the test following a day of fairly copious water ingestion verified this assumption, as on the second test over 1000 cc. was voided, and the specific gravity fell well below 1.010 in all cases.

So far as the ability of the kidneys to concentrate the urine is concerned there were 9 patients of the 33 who did not concentrate the urine to a specific gravity of 1.025, the highest concentration on one reading 1.018, one 1.019, one 1.020, two 1.022, one 1.023, and three 1.024. Seven of these nine patients characteristically void in the vicinity of 3000 cc. or over per day, whereas only two characteristically void under 2000 cc. That the ability of the kidneys to concentrate urine is usually not lost in these cases is shown in the consideration of the urinary outputs during the night. In only 3 of the 33 cases was the specific gravity level of 1.025 not exceeded, either at some time during the day or in the night collection. The output in 15 of the 33 cases exceeded the water intake (1000 cc.) for the four-hour collection period. This compares favorably with Pratt's series in which 12 of the 22 had a urinary output which exceeded the water intake. Nine of the 33 patients eliminated less than 700 cc. for the first four hours after the ingestion of water. Four of these patients were presumably partially dehydrated prior to the test. The average output for the four hours for the total series was 1000 cc. The fact that the average water output was exactly equal to the water intake is, of course, fortuitous. The range varied from a minimum of 173 cc. to a maximum of 1852 cc. From these data one is justified in believing that the kidneys of the average schizophrenic patient are able both to dilute and concentrate the urine.

The high incidence of polyuria, low carbohydrate tolerance, lowered oxygen consumption, tendency to hypotension, diminished gastro-intestinal motility, and disturbances of the heat regulatory mechanisms so frequently encountered in schizophrenic subjects might all conceivably be due to changes, functional or organic, in the diencephalon or the diencephalo-pituitary mechanism. Hoff and Wermer [7] have shown that posterior lobe pituitary extract markedly diminishes the urinary output from normal individuals during the four-hour period following the ingestion of a litre of water. Hoff [8]

later demonstrated that in the presence of large lesions in the diencephalic area, the anti-diuretic effect of pituitrin is lost. It seemed advisable in the light of possible involvement of the diencephalon in schizophrenic patients to test the anti-diuretic effect of pituitrin on such patients. The same procedure outlined above in the Pratt Test was used. Immediately following the ingestion of the litre of water, 1 cc. of obstetrical pituitrin (P. D.) was injected subcutaneously. Table 1 illustrates the effect of the pituitrin. The urinary output for the first four hours dropped, disregarding fractions, from an average volume of 1000 cc. to 311 cc. In every case the urinary output was affected in a downward direction under the influence of pituitrin. The diminution in urinary output was accompanied by a corresponding increase in the specific gravity. Between the fourth and sixth hours the effect of the pituitrin begins to wear off, as was reported by Hoff and Wermer in the case of normal control subjects.

During the first 12 hours of the Pratt Test, without pituitrin medication, the total elimination of urine on the average was 1341 cc.; with pituitrin, 1211 cc. However, when we add in the average night urines we find that the total elimination for the 24-hour period with pituitrin was 1614 cc.; and without, 1566 cc.—an insignificant difference. Pituitrin, then, exerts essentially the same influence, so far as its anti-diuretic effects are concerned, on the schizophrenic patient that it does on normal individuals.

Figs. 3 and 4 depict graphically the material shown in Table 1.

Discussion.

No attempt has been made to discuss the question of emotions in relation to the polyuria occurring in these patients. Many of the patients in the series who showed a high urinary output were relatively long hospitalized and the psychosis had progressed to the point where differential characteristics between the various Kraepelinian sub-types were no longer apparent. In many patients in this category the obtaining of a fair picture of their emotional life would be extremely difficult. Reliance on objective reactions as a criterion of the emotional lives of such patients may be very misleading. Most of us have had the experience of having a patient recover from a long period of catatonic stupor and describe to us

TABLE 1.

PRATT TEST.
(On 33 Male Schizophrenic Patients.)

Time.	8 to 9 a. m.	10 a. m.	11 a. m.	12 noon.	Total first 4 hours.	2 p. m.	4 p. m.	6 p. m.	8 p. m.	Total eight hours.	Night coll.	24-hour grand total.
Avg. volume cc.....	155	495	258.5	92.3	1000.8	98.8	87.7	79.3	74.7	1341.3	225.4	1566.7
Avg. specific gravity.....	1.0149	1.0085	1.0104	1.0152		1.0198	1.0222	1.0237	1.0256			

PRATT TEST WITH PITUITRIN.

Time.	8 to 9 a. m.	10 a. m.	11 a. m.	12 noon.	Total first 4 hours.	2 p. m.	4 p. m.	6 p. m.	8 p. m.	Total eight hours.	Night coll.	24-hour grand total.
Avg. volume cc.....	99.4	78.4	74.2	59.7	311.7	113.6	393.6	274.7	118.2	1211.8	402.6	1614.4
Avg. specific gravity.....	1.0187	1.0225	1.0236	1.0252		1.0222	1.0138	1.0137	1.0204			

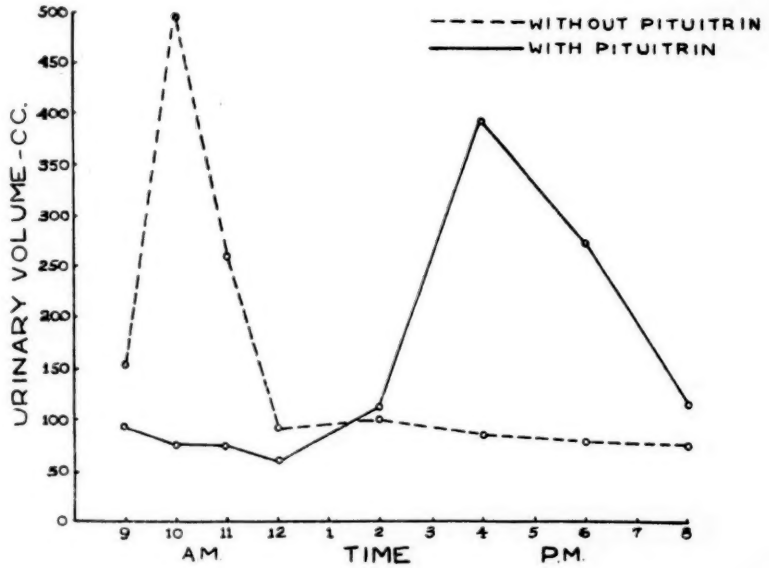
WITHOUT PITUITRIN
WITH PITUITRIN
URINARY VOLUME-CC.
500
450
400
350
300
250
200
150
100
50
0
9 10 11 12 1 2 3 4 5 6 7 8
A.M.
TIME
P.M.

FIG. 3.

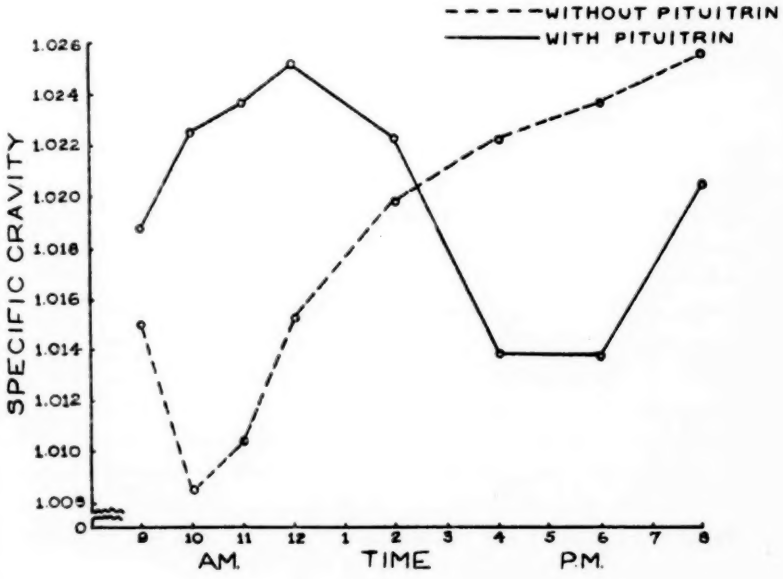
WITHOUT PITUITRIN
WITH PITUITRIN
SPECIFIC GRAVITY
1.026
1.024
1.022
1.020
1.018
1.016
1.014
1.012
1.010
1.008
0
9 10 11 12 1 2 3 4 5 6 7 8
A.M.
TIME
P.M.

FIG. 4.

a fairly rich emotional life during the stupor which certainly was not obvious to observers. We hope to be able to present at a later date further studies directed towards a solution of this phase of the problem.

The question of habituation to water drinking may play a rôle in the perpetuation of the polyuria. Do these patients have polydipsia because they have nothing else to do but drink water? The answer to this question necessitates a long period of conditioning to a normal intake of water and determination of whether the consequential diminution in urinary output will persist when the patients are again permitted to drink water as they wish.

The age of the patients in this series did not seem to bear any constant relationship to urinary output. There was a tendency for the heavier patients to have a higher urinary output but the correlation was not high; the same held true for the correlation between urinary output and surface area.

Several other phases of the problem are under investigation. The basic question of why these patients have polydipsia with consequent polyuria remains unanswered. The problem seems to warrant further attention.

Summary.

The average urinary output in a series of 92 male schizophrenic patients was 2532 cc., that of 26 presumably healthy control subjects 1328 cc.

Restrictions of water intake to about 1900 cc. of water both as such and in food in 10 of the patients with very high urinary output resulted in no particular complaints of thirst on their part although they did complain of the sameness and amount of food.

It has been shown that the kidneys of schizophrenic patients are able to concentrate and dilute urine within normal limits in response to the ingestion of one litre of water.

The anti-diuretic effect of obstetrical pituitrin is as effective in schizophrenic patients as in normal subjects reported in the literature.

Further studies on the cause or causes of polyuria in schizophrenia are indicated.

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THE BLOOD-CEREBROSPINAL FLUID BARRIER IN MENTAL DISORDERS.*

Distribution Ratio of Calcium and its Relation to that of Bromide and to the Protein Content of the Cerebrospinal Fluid.

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Foxborough, Mass.

It has been shown in earlier communications [1, 2, 3, 4] that the ratio of distribution of bromide between blood and cerebrospinal fluid differs in various mental disorders. These differences, which have recently been summarized by Malamud, Miller and Mullins,[5] tend to suggest that the permeability of the blood-cerebrospinal fluid barrier is altered in a consistent manner in certain psychoses. As pointed out previously,[3] however, it is still problematical whether the observations made by means of the Walter bromide test are really representative of the condition of the barrier in a broad sense. We have therefore made a comparative study of the distribution between blood and cerebrospinal fluid of other substances, choosing for this purpose some of the normal constituents of the body. The present communication deals with the results obtained with calcium in a large number of cases, in most of which simultaneous determinations of the distribution ratio of bromide and the total protein of the spinal fluid were performed.

The information available concerning the calcium content of the blood and cerebrospinal fluid in mental disorders is rather meager. Katzenelbogen and Goldsmith [6] studied the largest number of cases. They found that the ratio of spinal fluid to blood calcium was slightly increased in 5 out of 42 cases of organic psychosis and abnormally low in 4 out of 40 cases of schizophrenia. Normal values were obtained in 10 patients with affective psychoses and 21 with mental deficiency. Fleischhacker and Scheiderer [7] in-

* Read at the ninetieth annual meeting of The American Psychiatric Association, New York City, May 28–June 1, 1934.

From the Foxborough State Hospital.

vestigated 75 cases, their material including 21 cases of dementia præcox, 16 of general paresis and smaller groups made up of other types of mental disorder. Although they did not observe any consistent deviations of the distribution ratios, they stated that patients with dementia præcox tended to show a lowering of the calcium level, particularly in the spinal fluid. The results obtained by McCance and Watchorn [8] indicated that patients with dementia paralytica frequently exhibited an increased proportion of calcium in the cerebrospinal fluid. Weston and Howard [9] concluded from a study of 27 cases of manic-depressive psychosis that there were no alterations of the blood and cerebrospinal fluid calcium in this disorder. Cantarow [10] and Stary, Kral and Winternitz [11] found a tendency towards an increased diffusion of calcium into the spinal fluid in various mental disorders, but their groups were too small to admit of valid conclusions.

Material and Methods.

Our material was made up of 400 cases, in which 523 determinations of the distribution ratio of calcium between blood and cerebrospinal fluid were performed. The patients who were studied on more than one occasion belonged chiefly to the neurosyphilitic group. Since these repeated determinations were made at widely separated intervals and were hence really representative of new clinical pictures, they were included in the data presented here. The cases were classified as follows:

	No. of cases.	No. of determinations.
Schizophrenia	147	157
Neurosyphilis	88	192
Affective psychoses	80	84
Alcoholic psychoses	31	34
Psychoses with cerebral arteriosclerosis	22	23
Psychoses with psychopathic personality	16	16
Psychoses with mental deficiency	16	17

A small number of the cases belonging to the affective [3] and alcoholic [4] groups were reported previously. The great majority of the patients with neurosyphilis were suffering from general paresis. The affective group included 67 cases of manic-depressive psychosis

(33 manic and 34 depressed patients) and 13 cases of involutional melancholia.

Blood and cerebrospinal fluid were removed as nearly simultaneously as possible. This was done with the patients in a fasting condition. The method used for calcium was the Clark-Collip modification of the Kramer-Tisdall procedure.[12] Four hundred and eighty determinations of the ratio of blood to fluid bromide and 347 of the protein content of the cerebrospinal fluid were made on parts of the same specimens that were used for the calcium determinations. The total protein was estimated by the recent modification [13] of the method of Denis and Ayer [14] and the distribution ratio of bromide by Hauptmann's modification [15] of Walter's test, as described by Malamud, Fuchs and Malamud.[1]

For purposes of comparison with the results obtained with bromide, the ratio of calcium in the serum to that in the cerebrospinal fluid was determined. This was done by dividing the calcium values in the blood by those in the spinal fluid. Since the former ordinarily contains about twice as much calcium as the latter, the normal distribution ratio is 2, with fluctuations, according to Fleischhacker and Scheiderer,[7] from 1.8 to 2.2. According to Leipold,[16] the range is from 1.78 to 2.19. Katzenelbogen and Goldsmith,[6] Cantarow,[10] Lennox and Allen [17] and others state that the spinal fluid calcium normally constitutes 45 to 55 per cent of the amount of blood calcium. This corresponds to a ratio of blood to spinal fluid calcium of 1.82 to 2.22. In the present communication ratios under 1.80 are considered low and hence indicative of a relative increase in the calcium content of the cerebrospinal fluid. Values above 2.20 are regarded as high; they denote a relative decrease of cerebrospinal fluid calcium. In accordance with standards adopted in previous publications, distribution ratios of bromide falling between 2.8 and 3.2 are looked on as normal.

Distribution of Calcium Between Blood and Cerebrospinal Fluid.

An analysis of our data is presented in Table 1. In the whole series of cases the serum calcium ranged from 8.0 to 13 mg. and the spinal fluid calcium from 3.5 to 6.4 mg. per hundred cubic centimeters. It is commonly stated that the serum normally con-

TABLE 1.

DISTRIBUTION OF CALCIUM BETWEEN BLOOD AND CEREBROSPINAL FLUID.

No. of determinations	Diagnosis	Serum calcium mg. per 100 cc.				Spinal fluid calcium mg. per 100 cc.				Ratio of blood to spinal fluid calcium.			
		Below 9 mg.	9–11 mg.	Above 11 mg.	Average	Below 4.5 mg.	4.5–5.5 mg.	Above 5.5 mg.	Average	Below 1.8	1.8–2.2	Above 2.2	Average ratio
157	Schizophrenia	2	112	43	10.5	16	125	16	5.0	5	107	46	2.10
192	Neurosyphilis	5	155	32	10.4	4	140	48	5.3	24	153	15	1.96
84	Affective psychoses	4	65	15	10.3	0	69	15	5.2	8	72	4	1.98
34	Alcoholic psychoses	1	26	7	10.3	1	31	3	5.1	2	29	4	2.02
23	Cerebral arteriosclerosis	1	19	3	10.4	0	20	3	5.2	2	19	2	2.00
16	Psychopathic personality	1	12	3	10.3	0	13	3	5.2	2	13	1	1.98
17	Mental deficiency	0	14	3	10.3	1	16	0	5.0	0	15	2	2.06

tains 9 to 11 mg. and the spinal fluid 4.5 to 5.5 mg. of calcium per hundred cubic centimeters. While the great majority of our figures fell within these limits, one sees that abnormal values, particularly high ones, occurred with considerable frequency. Most observers have reported wide variations in cases of mental disorder. The figures obtained by McCance and Watchorn [8] ranged between 8.62 and 13.40 mg. per hundred cubic centimeters in the blood and between 4.41 and 8.70 mg. in the spinal fluid. In Cantarow's [10] cases the corresponding fluctuations were from 9.25 to 15.1 mg. and from 4.9 to 6.73 mg. In the cases of Fleischhacker and Scheiderer [7] the blood showed from 9.6 to 13.4 mg. per hundred cubic centimeters and the spinal fluid 4.9 to 6.4 mg. Less marked variations were observed by Katzenelbogen and Goldsmith.[6] They found that the range was 8.1 to 10.9 mg. in the serum and 4.1 to 5.9 mg. in the spinal fluid.

In schizophrenia the serum calcium ranged from 8.5 to 13 mg. per hundred cubic centimeters, with an average of 10.5 mg. The figures were below 9 mg. in approximately 1 per cent and above 11 mg. in 27 per cent of the determinations. In neurosyphilis the average was 10.4 mg. per hundred cubic centimeters, and fluctuations between 8.5 and 12.4 mg. were observed. Approximately 3 per cent of the values were below 9 mg. and 17 per cent were above 11 mg. The affective group showed an average of 10.3 mg. of calcium per hundred cubic centimeters, with variations from 8.0 to 12.1 mg. The range was 8.0 to 11.4 mg. in alcoholic psychoses, 8.8 to 12.6 mg. in the arteriosclerotic group, 8.0 to 11.6 mg. in psychoses with psychopathic personality and 9.2 to 11.4 mg. in psychoses with mental deficiency.

The cerebrospinal fluid calcium in schizophrenia ranged from 3.5 to 6.2 mg. per hundred cubic centimeters, the average being 5 mg. (Table 1). Sixteen determinations (12 per cent) were low and an equal number high. In neurosyphilis the average spinal fluid calcium was 5.3 mg. per hundred cubic centimeters. The values ranged from 3.6 to 6.4 mg., 2 per cent of the figures being low and 25 per cent high. Less marked fluctuations occurred in the other types of psychosis. The affective group showed an average of 5.2 mg. of calcium per hundred cubic centimeters, with variations from 4.5 to 6.1 mg. Approximately 18 per cent of the figures were above 5.5 mg. In alcoholic psychoses fluctuations be-

tween 4.0 and 5.8 mg. were noted, but abnormal results were obtained in only 4 cases. The figures ranged from 4.6 to 5.8 mg. in the arteriosclerotic group, from 4.8 to 5.8 mg. in the cases of psychopathic personality and from 4.4 to 5.5 mg. in the feebleminded group.

The ratio of blood to cerebrospinal fluid calcium in schizophrenia fluctuated between 1.6 and 3, 29 per cent of the ratios being above 2.2 and only 3 per cent below 1.8 (Table 1). A slightly greater proportion of high distribution ratios occurred in the catatonic type than in the other types of schizophrenia, but it was questionable whether the difference was marked enough to be of definite significance. The other psychotic groups showed a smaller percentage of abnormal results without any striking preponderance of increased or decreased values. In neurosyphilis the ratios ranged from 1.5 to 3, low figures occurring a little more frequently than high ones. Untreated patients with general paresis presented the largest proportion of decreased values, 9 out of 25 ratios obtained in such cases being below 1.8. It was found that these low ratios tended to move in the direction of normal following treatment. Distribution ratios above 2.2 were found almost exclusively in cases in which the disease appeared to be stationary. In the cases of affective disorder low ratios were also a little commoner than high ones, but less pronounced variations were noted here, the figures falling between 1.5 and 2.4. Values above 2.2 were equally distributed between manic states and depressions, whereas 5 low determinations were obtained in the latter as compared to 3 in the former. All of the patients with involutional melancholia showed normal results. The ratios ranged from 1.7 to 2.3 in the alcoholic and arteriosclerotic groups, from 1.4 to 2.3 in the cases of psychopathic personality and from 1.9 to 2.4 in the feebleminded group.

It is evident from an analysis of our observations that the distribution ratios of calcium in schizophrenia tended to show consistent deviations that were not encountered in the other psychoses studied here. This difference is brought out more clearly in Fig. 1, in which results obtained in the three largest groups are arranged. It can be seen that the curve representing the observations made in schizophrenia lies for the most part above the line drawn at 2, which indicates the mean normal figure for the distribution ratio of cal-

cium. Only 40 of the 157 ratios were below 2. In contrast to this, the ratios obtained in neurosyphilis and affective psychoses were fairly evenly distributed with reference to the mean normal value, a slightly greater proportion of the figures being below than above 2. The deviation upward of the ratios in schizophrenia owed its origin

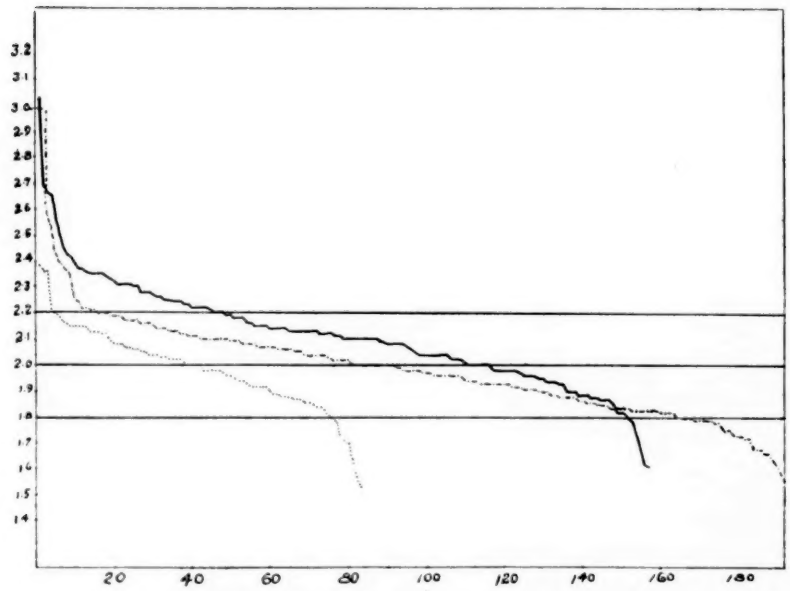

FIG. 1.—The distribution ratios of calcium in schizophrenia, neurosyphilis and affective psychoses. The calcium ratios in schizophrenia are represented by a continuous line, in neurosyphilis by a broken line and in affective psychoses by a dotted line. The figures at the left of the chart indicate the calcium ratios and those at the bottom of the chart the number of determinations. The lines drawn across the chart at 2.2 and 1.8 represent the upper and lower limits of normal and the line at 2.0 indicates the mean normal value for the distribution ratio of calcium.

in some cases to a low calcium content of the cerebrospinal fluid and in others to a tendency for high values to occur in the blood without any corresponding increase of calcium in the fluid. Apart from the fact that a tendency towards deviation in the opposite direction was noted in untreated patients with general paresis, the variations observed in the other groups were probably too slight to be of definite significance.

Distribution Ratio of Bromide Between Blood and Cerebrospinal Fluid.

The results obtained with the bromide test, which was performed in most of our cases, are presented in Table 2. In schizophrenia 39 per cent of the distribution ratios were above 3.2 and 11 per cent were below 2.8. The catatonic type showed a slightly greater proportion of high figures than the other types of schizophrenia. In neurosyphilis and psychoses with cerebral arteriosclerosis the majority of the bromide ratios were low. The other groups did not

TABLE 2.

Distribution Ratio of Bromide Between Blood and Cerebrospinal Fluid.

No. of determinations.	Diagnosis.	Ratio of blood to spinal fluid bromide. Below 2.8	2.8-3.2	Above 3.2	Average ratio.
130	Schizophrenia	14	65	51	3.2
181	Neurosyphilis	101	63	17	2.7
82	Affective psychoses	22	47	13	3.0
33	Alcoholic psychoses	10	17	6	2.9
22	Cerebral arteriosclerosis	16	6	0	2.6
15	Psychopathic personality	4	5	6	3.0
16	Mental deficiency	3	8	5	3.1

present any consistent alterations, though decreased ratios were a little commoner than increased ones in affective and alcoholic psychoses.

These observations corroborate in a general way the results reported in earlier publications and the more recent findings of Malamud, Miller and Mullins.[5] However, the proportion of high ratios in schizophrenia was not so great here as in the cases dealt with previously.[2] There was also a less striking predominance of low figures in neurosyphilis, but this difference is explained by the fact that most of the present determinations were performed on patients who had received treatment. All but one of the 25 determinations made in untreated cases were low. Following treatment with malaria or tryparsamide the bromide ratios tended to move in the direction of normal.

Relation Between the Distribution Ratios of Calcium and Bromide.

For purposes of comparison we have represented in Fig. 2 the percentages of low, normal and high distribution ratios of calcium and bromide obtained in each group. It is at once apparent that the two substances yielded similar results in schizophrenia, though the percentage of abnormal figures was a little greater with bromide

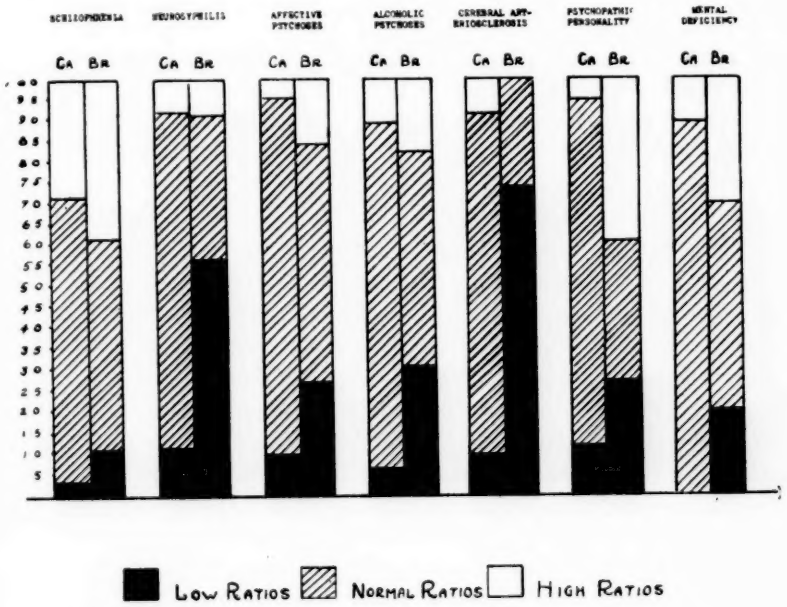

Fig. 2.—Comparison between the distribution ratios of calcium (Ca) and bromide (Br). The percentages of low, normal and high ratios obtained in each group are indicated by the figures at the left of the chart.

than with calcium. In spite of this general correlation, there was no consistent relation between the ratios in the individual cases. High calcium values were associated frequently with normal and occasionally even with low bromide ratios. As a matter of fact, the patients showing increased calcium ratios showed only a slightly larger proportion of increased figures for bromide than the group as a whole.

The distribution ratios of the two substances failed to present any definite parallelism in the neurosyphilitic group as a whole. However, one might speak of a certain degree of correlation within this group, inasmuch as low calcium and bromide ratios occurred with greatest frequency in untreated patients. This tendency was more pronounced with bromide than with calcium. In affective psychoses the two substances behaved in a similar manner, both showing a slight predominance of low ratios over high ones. There were more marked variations in the figures for bromide than in the calcium values, but neither substance exhibited striking deviations from the normal. In these psychoses, as in schizophrenia, the correlation was merely general, for no constant relation could be observed between the bromide and calcium ratios in the individual cases.

A comparative study of the remaining groups failed to disclose other points of similarity. For instance, an analysis of observations made previously [4] suggested that alcohol taken in excessive amounts was apt to lower the distribution ratio of bromide. In contrast to this, there was nothing to indicate that alcohol had any noteworthy effect on the exchange of calcium between blood and cerebrospinal fluid in the various disorders studied here. The lack of correlation between bromide and calcium was especially striking in cerebral arteriosclerosis. It might also be mentioned that toxic and infectious conditions frequently lead to a decrease in the distribution ratio of bromide but seem to have little influence on that of calcium. Thus in a group of seven patients with toxic psychoses, six of the bromide ratios were definitely decreased, whereas only one of the corresponding calcium ratios was below the normal limits.

Relation Between the Distribution Ratio of Calcium and the Protein Content of the Cerebrospinal Fluid.

An examination of the individual cases failed to disclose any constant relation between the distribution ratio of calcium and the total protein of the spinal fluid. Nevertheless, a slight degree of correlation of a general nature was noted in the groups in which the number of determinations was large enough to admit of valid conclusions. These features are brought out in Fig. 3, which repre-

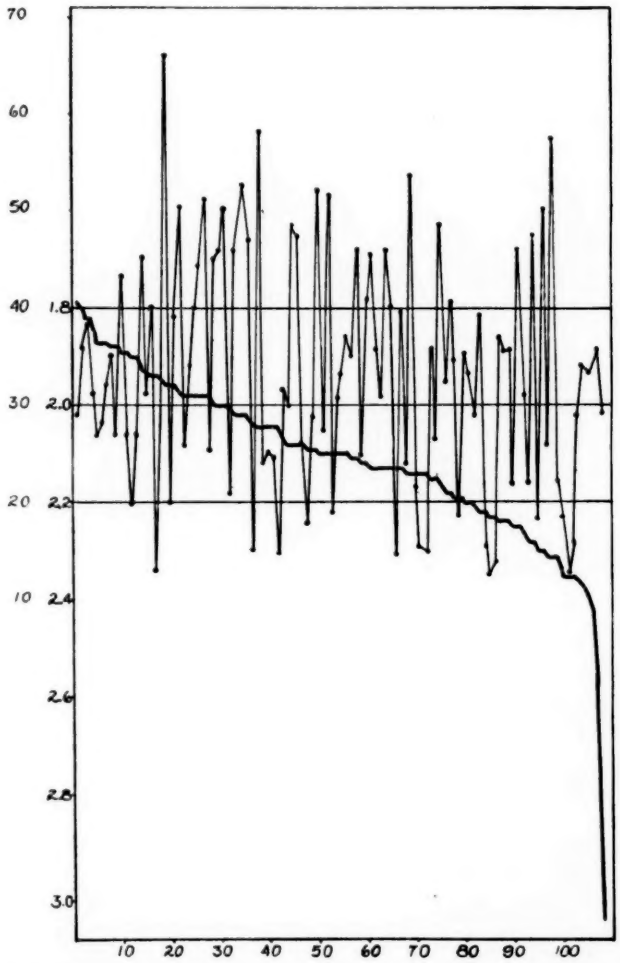

FIG. 3.—The relation between the distribution ratio of calcium and the total protein of the spinal fluid in schizophrenia. The calcium ratios are arranged in a continuous curve running from the left side of the chart to the lower right hand corner. The protein values are represented by dots which are connected by straight lines. Each dot is placed in a line vertical to the calcium ratio obtained in the same case. The figures at the left of the chart indicate the total protein in milligrams per hundred cubic centimeters and the calcium ratios. They are arranged in such a way that the normal figures for the two substances fall within the upper and lower horizontal lines, with high protein values corresponding to low ratios (*i. e.*, ratios indicative of an increased proportion of calcium in the spinal fluid). The figures at the bottom of the chart represent the number of determinations.

sents the results of 108 parallel determinations of the calcium and total protein values made in schizophrenia. The protein content of the spinal fluid varied from 12 to 68 mg. per hundred cubic centimeters. The majority of the figures were between 20 and 40 mg., the limits accepted for our present purposes as normal. While there was a striking lack of correlation between the two substances in many cases, it can be seen that low protein values occurred a little more frequently towards the right side of the chart, where the high calcium ratios are arranged, than elsewhere. In other words, there was a slight tendency for a decreased amount of protein and a relatively low spinal fluid calcium to occur together. Thus the average total protein value for the cases with calcium ratios above 2.2 was 29 mg., as compared to 33 mg. for the group as a whole.

A scrutiny of the data obtained in neurosyphilis disclosed an analogous tendency toward an association between low calcium ratios (that is, relatively increased amounts of spinal fluid calcium) and increased quantities of protein. The results are presented in Fig. 4. One hundred and twenty-six parallel determinations of the calcium ratios and total protein values were performed. The protein ranged from 14 to 412 mg. per hundred cubic centimeters, the great majority of the figures being high. Although these high protein values were scattered throughout the group, the largest proportion of them appeared at the extreme left hand side of the chart, where the low calcium ratios are located. In fact, all but one of the cases with distribution ratios of calcium below 1.8 showed a total protein above 40 mg. As the calcium ratios became higher (that is, towards the right side of the chart), normal figures for protein were encountered more frequently. Similar features were observed in the affective group, in which 53 cases were studied. Here the average protein value for the cases with ratios below 1.8 was 43 mg., while the average figure for the whole group was 35 mg. In these groups, as in schizophrenia, the correlation was merely general and not consistent, for it was not uncommon to find increased amounts of protein and normal or even high calcium ratios in the same cases.

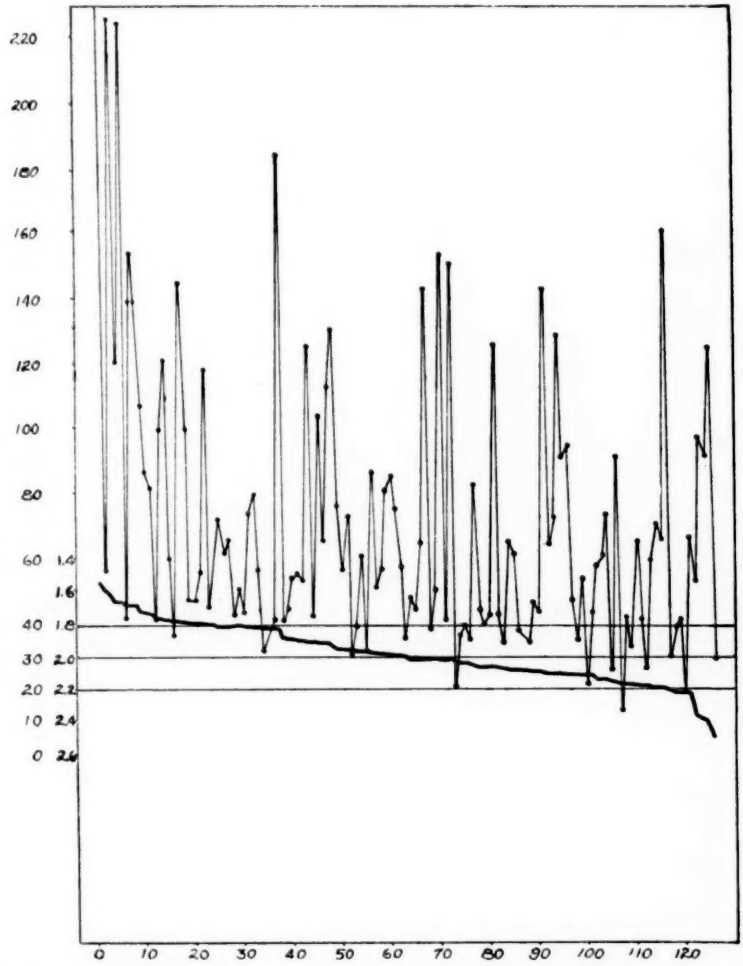

FIG. 4.—The relation between the distribution ratio of calcium and the total protein of the spinal fluid in neurosyphilis. The figures are arranged in the same way as in Fig. 3.

Comment.

In the majority of our cases the distribution ratio of calcium between blood and cerebrospinal fluid was normal. It was evident that the proportion of abnormal figures observed in any one group was not large enough to be of definite aid in differential diagnosis. Nevertheless, an analysis of our data disclosed certain noteworthy features.

The most striking observation was that the distribution ratios of calcium in schizophrenia tended to deviate upward. In other words there was a tendency towards a relative decrease in the calcium content of the cerebrospinal fluid. This suggests that the permeability of the blood-cerebrospinal fluid barrier may be decreased in the disorder under discussion. Such an observation is of particular interest in view of the fact that the results obtained with bromide pointed to a similar disturbance of permeability.

The only other noteworthy alterations of the calcium ratios occurred in untreated patients with general paresis. Here the results were suggestive of an increased permeability of the blood-cerebrospinal fluid barrier. The bromide determinations disclosed a similar, though much more pronounced, tendency which was not confined to untreated patients. As a rule the distribution ratios of both substances moved in the direction of normal following treatment with malaria or tryparsamide.

It is evident that bromide and calcium show a number of points of similarity of a general nature with reference to their passage into the cerebrospinal fluid. This is in accord with the findings of Katzenelbogen and Goldsmith.[6] According to our observations, the resemblance was closest in the schizophrenic group. The most striking difference was that the toxic and organic disorders dealt with here seemed to have much less influence on the distribution of calcium than on that of bromide.

In spite of this general agreement, there was a frequent lack of correlation between the two substances in the individual cases. This inconsistency might lead one to suspect that the deviation of the calcium values was not caused by a change in the barrier at all but by alterations in the ratio of diffusible to nondiffusible calcium of the blood. According to Cantarow [10] and others, the calcium content of the cerebrospinal fluid accurately represents the diffusible

fraction of the serum, providing the barrier between the two fluids is normal. Thus a low spinal fluid calcium might be merely an expression of a decrease in the amount of diffusible calcium. However, we have been able to demonstrate by means of ultrafiltration experiments on the blood [18] that there were no changes in the diffusible fraction to account for the low spinal fluid values obtained in our cases. The differences in the calcium content of the cerebrospinal fluid cannot be ascribed to alterations in the protein of the blood, for Merritt and Bauer [19] have shown that the ratio of fluid calcium to serum calcium is not appreciably changed by variations in the serum protein.

In view of these observations it seems likely that we are dealing with an actual change in the permeability of the barrier to calcium. The lack of correlation between bromide and calcium in individual cases remains as a puzzling phenomenon. One might postulate that the permeability to each substance may be altered with or without a corresponding alteration in the permeability to the other. While the notion that the barrier acts in such a selective manner must, with the knowledge available at present, be regarded as speculative, it receives support from the investigations of a number of authors. Stern and Rappaport [20] produced experimental disturbances in which the blood-cerebrospinal fluid barrier became permeable to certain substances but remained impermeable to others. According to the figures obtained by Merritt and Bauer,[19] the distribution ratio of calcium is by no means invariably altered in meningitis, even though the function of the barrier is regularly impaired and an increased proportion of bromide occurs in the spinal fluid with great consistency. It might also be mentioned that the recent chemical studies of Walker [21] led to the conclusion that the choroidal epithelium exhibited selective qualities not possessed by capillary endothelium or by the glomerular membrane. Although the exact nature of the cerebrospinal fluid is still a subject of dispute, Walker,[21] Gilligan, Volk and Blumgart [22] and others have advanced a good deal of evidence in favor of the theory that it is not a dialysate or a simple ultrafiltrate.

In view of the fact that there was a slight general correlation between the distribution ratio of calcium and the total protein, the question might be raised whether the alterations in the calcium

content of the cerebrospinal fluid could be accounted for by assuming that some of the calcium was associated with the protein of the fluid. Thus most of the low calcium ratios (that is, those suggesting an increased permeability of the barrier) were observed in cases presenting increased protein values. There was a less marked tendency for high calcium ratios and decreased amounts of protein to occur together. A scrutiny of our data, however, showed that the changes in the protein content of the cerebrospinal fluid were not great enough to account for the changes in the distribution ratio of calcium. It was also found that there was a complete lack of correlation between the two substances in many instances. From these observations it seems justified to conclude that the variations in the calcium ratios cannot be satisfactorily explained by the alterations in the protein content of the cerebrospinal fluid.

Summary.

The distribution of calcium between blood and cerebrospinal fluid was investigated in 400 cases of mental disorder. Five hundred and twenty-three determinations of the ratio of blood to spinal fluid calcium were made. In addition, 480 determinations of the distribution ratio of bromide and 347 determinations of the protein content of the cerebrospinal fluid were performed on parts of the same specimens that were used for the calcium determinations.

In the schizophrenic group 29 per cent of the calcium ratios were above 2.2 and 3 per cent were below 1.8. In neurosyphilis 8 per cent of the calcium ratios were above 2.2 and 12.5 per cent were below 1.8. Low ratios occurred with greatest frequency in untreated patients with general paresis. The other groups showed a smaller proportion of abnormal results without any striking preponderance of increased or decreased values.

The results were suggestive of a tendency towards decreased permeability of the blood-cerebrospinal fluid barrier in schizophrenia and increased permeability in untreated patients with general paresis.

There was a general correlation between the distribution ratios of calcium and bromide in schizophrenia, affective psychoses and untreated neurosyphilis. In the individual cases this correlation was frequently lacking.

Low calcium ratios tended to occur in cases presenting increased amounts of protein in the cerebrospinal fluid and high ratios in cases showing decreased amounts of protein, but this relationship was not consistent. A scrutiny of our data clearly indicated that the variations in the distribution ratio of calcium could not be accounted for by alterations in the protein content of the cerebrospinal fluid.

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DISCUSSION OF PAPERS BY DRS. KATZENELBOGEN AND LUTON, LINDEMANN, LOONEY AND HOSKINS, SLEEPER, ROTHSCHILD AND HAMBERG.

DR. EDWARD CUSSLER (New York, N. Y.).—My discussion of these papers will be entirely from the standpoint of an internist. I will take up first the paper of Drs. Looney and Hoskins on the therapeutic use of dinitrophenol and dinitro-ortho-cresol. The results reported are very suggestive, but I agree that the cases are too few in number to justify drawing any conclusions now. I am not familiar with the action of dinitro-ortho-cresol, but it would seem from these experiments that dinitrophenol is less toxic. When a given drug causes jaundice in a patient, it should certainly be used with great caution. Another symptom that indicates toxic action is an urticarial reaction. For instance, when urticarial reactions follow the use of atophan we are very careful about continuing that remedy. Unfortunately, we have no means by laboratory tests of judging of early liver damage. The icteric index and Van den Bergh's test are indicative of liver damage that is already quite advanced. Clinical symptoms also are only evident when the liver changes are considerable. In connection with these methods of increasing metabolism, it is interesting to recall that some observations have been made by using oxygen chambers in the treatment of patients suffering from depression.

Dr. Lindemann's article on the injection of adrenalin is very interesting. Possibly, an explanation of the improvement observed in some of these excited patients may be that it is similar to the effect produced by shock treatment. In other words, the patient's attention is directed to the uncomfortable symptoms produced by the adrenalin injection, such as tremor, rapid heart action, sense of heart pounding, and so forth. Such unpleasant symptoms frequently follow adrenalin injections in psychoneurotic patients, and even more frequently in those patients who may be potential subjects of Graves' disease. In one of the cases cited, the patient, who apparently had a hyperthyroid condition, suffered a rather serious reaction to the injection of adrenalin. It is well known that adrenalin should be given very cautiously in such patients and also in arteriosclerotic patients. The results obtained certainly indicate that the investigation of the effect of adrenalin injections should be continued. It has always seemed to me that mild sedatives are useful in the treatment of certain depressed states. Most psychiatrists, I believe, do not favor sedative medication, but wisely used in small doses and not for long periods, distinct relief can be obtained. In my opinion some of these patients are really often excited, so far as worry and fear are concerned, and perhaps that is the cause of anxiety.

The observations of Dr. Sleeper in his investigation of polyuria in schizophrenia are very interesting. They indicate quite definitely that the kidney function of these patients is normal. The extremely wide range, however,

510 to 9140 c. c., suggests there must have been great variation in the amount of water intake. There are several possible explanations of the polyuria. These patients were compared with employees who were probably much more active than the patients who were rather inert physically. As suggested by the author himself, these patients may have nothing much to do but drink water. Finally, one might raise the question, I think, whether autoerotic impulses in these patients might not induce polyuria.

As to the report on hyperthyroidism and psychobiological reactions made by Drs. Katzenelbogen and Luton, I think their conclusions are quite in accord with the views of internists. The theory that exophthalmic goiter is a disease of the thyroid gland alone is not generally held at present. The causes of exophthalmic goiter are very complex. First, there is usually a constitutional predisposition. Second, fright, worry, overwork, anxiety and so forth, are often precipitating factors. Third, any disease that lowers resistance makes possible the development of Graves disease. Fourth, and still more complex, is the relation between the glands, especially the sex glands. Exophthalmic goiter not infrequently develops during the post-partum period or the menopause or in males at the end of sexual life. The adrenal and pituitary glands are also concerned in the development of Graves' disease. Some work has been done indicating that the administration of anterior pituitary may have an effect similar to that of iodine in controlling the symptoms of Graves' disease.

With regard to treatment, psychotherapy is strongly indicated, combined, of course, with proper medical treatment. Both should be tried before surgery is considered. No case of exophthalmic goiter can be said to be completely cured by surgery, but certainly, many patients are very much benefited. I agree with the authors that there is no doubt that high basal rate and tachycardia will occur in patients without Graves' disease. The clinical symptoms are more important than the estimation of basal rate.

Dr. Arthur G. Morphy (Lancaster, Ont., Canada).—I have listened with great interest to Dr. Katzenelbogen's paper on hyperthyroidism and I congratulate him on his broad treatment of this subject, a matter which I imagine in general hospitals is apt to be viewed too much perhaps from the surgical side.

A few considerations I have to offer are these: If we consider any affective emotional disturbance, we find that it consists of an instantaneous involvement of perceptive centers, the subthalamic nervous system, the autonomic nervous system and endocrines, notably the thyroid and suprarenals and others—one process. In the paper just read it is noted that the endocrine organs vividly respond to disturbances in the autonomic nervous system. It seems to me that we have a right to assume the converse also to be true, namely, that the function of the autonomic nervous system is disturbed by changes in the thyroid from infections, pregnancy, improper diet or lack of iodine.

Now in the production of hyperthyroidism, the following conditions are known to be effective: prolonged effective strain in certain individuals, con-

sequent and simultaneous excessive tension which is the physiological response of the organism; organic changes in the thyroid gland which make these patients more responsive to external stimuli such as emotional disturbances; a vicious circle is thus set up. The greater the strains, the greater the excessive thyroid function, and vice versa. One can, therefore, reasonably expect that in certain cases, difficult to select perhaps, the breaking of the vicious circle by thyroidectomy or medical treatment may produce good results. Cures of psychotic conditions in cases of hyperthyroidism by operation or otherwise are reported by reliable authorities.

In the diagnosis of hyperthyroidism, not the exophthalmic cases, but the cases in which there is a doubt as to diagnosis, we rely upon certain autonomic disturbances, tremor, emotional disturbances, increased metabolic rate and rapid pulse. Now since the basal metabolic rate is unreliable in some nervous cases, we are apt to have some difficulty in diagnosing mild hyperthyroidism from anxiety neurosis in which autonomic disturbances are constantly present. The question then arises, can we exclude thyroid or other endocrine disturbance in any neurosis? It seems *a priori* that in any autonomic disturbance there must be endocrine participation. The whole machine is so delicately balanced that any disturbance, whether disease or prolonged emotional strain, may upset its perfect working. And in cases of autonomic disturbance in which the thyroid is not obviously involved, we cannot leave out of consideration the possibility of chemical changes, which are as yet unknown. Consequently, in speaking of a neurosis, we must not be misled by the word in giving it too narrow a sense, but we must think of its implications.

In Dr. Katzenelbogen's paper, it is pointed out that thyroid involvement alone as measured by structural alteration is not self-sufficient to produce functional disorders, that there must be other dynamic factors, and the concept is mentioned that dysfunction of the vegetative nervous system, chiefly sympathicotonia, is the main etiological agent in this disease.

I hope I have not misunderstood these statements, but it seems plain that in any case of autonomic disturbance, the thyroid must participate, whether more or less depending upon the individual's make-up, the two processes integrating, each affecting the other. It seems hardly necessary to recapitulate these considerations which have been so fairly presented in the paper. The question as to why prolonged emotional strain, the storms of life, should produce in one person a psychosis or neurosis without definite involvement of the thyroid and in another a psychosis or neurosis with hyperthyroidism is as yet unsettled, and one is driven to assume an organic inferiority of the thyroid or the more vague refuge of a peculiarity in the patient's constitution.

As to which is the primary evil, the psychosis or the hyperthyroidism, one may suggest that neither condition is the primary cause of the other, but that both together are the peculiar reaction of the individual to his environment. Dr. Katzenelbogen and Dr. Luton are to be congratulated upon their presentation of this subject, upon their conservative views as to radical treatment and upon their plainly expressed opinion that hyperthyroidism is essentially a medical and psychiatric problem.

DR. ANDREW H. WOODS (Iowa City, Iowa).—I am glad the discussion thus far has further emphasized Dr. Katzenelbogen's and Dr. Luton's warning against over-hasty destructive treatment upon the thyroid gland in these cases that are attended with hyperthyroid symptoms. Those who have watched the development of endocrinology through 20 or 30 years have come to realize the complexity of the interrelationship of the autonomic system in general with the thyroid and other endocrine organs.

I want to say a word about Dr. Lindemann's suggestive paper. He was wise in refusing to study groups of cases for his present purpose merely on the diagnosis basis. When one thinks of a patient, for instance, as schizophrenic, he easily slips into the error of taking for granted that the affect is of a particular quality, and not take pains to demonstrate that it is of that quality. Dr. Lindemann seeks a technique for examining into and analyzing affect states. This may lead to reliable standards as to their quality and measures of their quantity. He selected unitary physiologic or psychic activities which occur in various disease pictures with a view to discovering what physiologic and pharmacologic conditions can reproduce them: what somatic conditions produce excitement, self-absorption, warm rapport with associates, etc., when those reactive attitudes are not responses to appropriate environment.

Depending on the conditions present at the hour of experiment in a patient who has no matter what psychosis or psychoneurosis, he noted that upon the injection of adrenalin certain changes in the psychic conscious state regularly take place. He compared these with the ordinary physiological results of the use in this particular study, of adrenalin in normal people. In general the attentiveness of the organism, that is, its responsiveness, or sensitiveness, to stimulation, changed: it became less alive to external, more alive to internal (proprioceptive or enteroceptive) stimuli.

Looking farther into the future, we hope light will be thrown upon the questions that for a generation have occupied psychologists and physiologists as to the sequences of cause and effect in emotion. We know that in response to an external situation a series of changes in the vascular, respiratory and endocrine systems occurs; and that, in addition, a peculiar state of consciousness appears. Is the primary response to the stimulus-situation that of the endocrine system, and are all the other changes secondary results of the endocrine action? Is the specific quality of the psychic state produced by the action of the endocrine products upon certain cerebral cells—possibly those of the thalamus—or is the response of those cerebral cells immediate to the perception of the outside situation? Also, granting that the specific psychic state is a normal feature in the total response to an ordinary environmental situation, may it not be merely a conditioned response in many otherwise non-emotional situations, for example, when states of tension have been induced artificially by the injection of adrenalin, or pathologically in hyperthyroidism? We hope Dr. Lindemann will continue this promising line of investigation.

One comment upon Dr. Rothschild's and Mr. Hamberg's investigations on the spinal fluid calcium. It was stated in one of the meetings yesterday that

in the transference of bromine from the blood to the spinal fluid the presence of chlorides interfered with the accuracy of the estimations. Dr. Rothschild and Dr. Malamud individually and together have shared in the work on this subject, and this criticism has been lodged by several observers against their technique. Last year I went over his experiments with Dr. Malamud and came to the conclusion that there was no difficulty in regard to the chlorides. If the solution under investigation contains very much more or much less chlorine than the standard solution used in the colorimeter for the bromide estimation, all that is necessary is to add salt to one or the other so as to bring the chloride content to approximately the same level in both known and unknown solutions.

Dr. Agnes Conrad (New York, N. Y.).—I have very little to add. My own experience has been that unfortunately the clinicians very often feel that when they have recognized the existence of an anxiety neurosis, they have ruled out the presence of true toxic goiter. I agree thoroughly with the conclusions of Dr. Katzenelbogen in all that he has said, and I feel that these studies which correlate the work of the psychiatrist and the clinician are of increasing importance.

Especially was I interested in the approach of Dr. Lindemann from the physiological as well as the psychiatric point of view. It opens up a great deal that now is purely a matter of speculation and I feel that such studies as these certainly will constitute a large part of the future of psychiatry.

I was interested also in the work of Dr. Sleeper because a few years ago I happened to have an opportunity of observing the case of a woman who developed a tendency to enormous water exchange during a pregnancy which terminated in a spontaneous abortion after six weeks. During that time, she did not want to eat any solids and ate especially ice cream and drank large quantities of water. Her husband, who was a physician, took such an interest in what he considered to be diabetes insipidus, that for a period it occupied his entire time. I think it was about two years that the condition continued before the appearance of a typical catatonic psychosis, in which she was brought to the hospital. The nurse's observations confirmed the impression that there was an erotization of the urinary function.

Dr. Isidore Finkelman (Elgin, Ill.).—I shall confine my remarks to the paper by Drs. Looney and Hoskins. At the Elgin State Hospital, Dr. W. Mary Stephens and I have employed dinitrophenol in 12 female obese patients and any results we obtained differing from those reported by Dr. Hoskins this morning may be due to the different type of patients that we used, the difference in sex and difference in weight. But there weren't so many differences in the results. We started with 100 milligrams and worked up to about 300 or 330 milligrams. We gave from one to about five grains a day. The average weekly weight loss was 1.44 pounds. The weight loss ran from about 8 to 16 pounds. These are all hebephrenics.

The non-protein nitrogen was found to increase with medication. We also found that the icteric index increased slightly, about 6.6, and the serum was decolorized with hydrochloric acid before the determination was made. This differs from Dr. Hoskins' report this morning, but it may be due to the fact that we had very obese patients or to some other factor. We did not observe any toxic changes at all in our cases. There was occasionally an icteric tinge of the sclera. This is, of course, as is well known, due to the dye and not due to any liver damage. Incidentally, the Van den Bergh's tests were consistently negative.

The oxygen consumption rate—and, by the way, I prefer to use that term, rather than basal metabolism, as Dr. Hoskins has brought out in a previous paper, because we never see any basal conditions in psychiatric patients; it is questionable even if we ever get the basal condition in so-called normal individuals—the oxygen consumption rate was increased in two patients above 50 per cent, one 74 and the other 66. We did not use the same notation that Dr. Hoskins used; we used the ordinary notation. We discontinued the treatment in these two patients. The average increase of the group was plus 37.16.

Now I wish to say a word about the improvement. We had 12 patients; ten of those patients we subjected to numerous tests, venipunctures, numerous oxygen consumption rate determinations and were given considerable incidental attention. These ten patients showed remarkable improvement in an institutional sense. That is, they were still cases of dementia præcox, but whereas formerly they were very indifferent and lacked spontaneity, after numerous tests, they began coming willingly to the laboratory or to the room where the determinations were made. They willingly subjected themselves to the oxygen consumption rate determinations and, surprisingly, in a series of experiments we have been doing on the rate of oxygen consumption during exposure to cold, they willingly went into the tub of very cold water, a feat which we could get very few normals to do. They did not do that because they were indifferent, but they went into the tub in the sense of cooperation.

This great improvement is of interest. But two of those patients we did not subject to these numerous tests. We did not give them any increased attention. They were simply given the drug by the nurse and the nurse weighed them. They did not see the physician very much, and those two patients did not show any improvement. So the conclusion may be arrived at that the so-called improvement may be due to increased attention and not to the drug. But I do not wish to leave you only with this impression, because the improvement was so remarkable, that we should not discount the fact that ten patients showed improvement and ascribe it entirely to increased attention, although this should be kept in mind.

Now a word about the rationale of the use of this drug. The improvement by increasing their oxygen consumption rate or by stimulating their metabolism may be not so successful. The question arises as to what would occur if we take these patients who have already been dinitrophenolized and put them in an oxygen chamber.

DR. FRANCIS H. SLEEPER (Worcester, Mass.).—I want to thank Dr. Cussler and Dr. Conrad for their discussion.

Dr. Cussler suggested that the water intake was increased and that was the reason why the patients had polyuria. That is very true. The problem then no longer becomes, why do the patients have polyuria but why do they drink more. He raised the question of the employees being more active. I question that. As a mater of fact, in the patients who had the highest urinary output, many of them were leading a relatively active life and were working much harder, in my opinion, than the employees who were controls.

The question has been raised whether or not the polyuria is due to autoerotic impulses; that may very well be. That is a problem which we have to work with later.

The main reason in presenting these data here today was to call attention to the fact that polyuria does exist in præcox. I would like to make one additional statement. We have found in running correlation studies that the fact that these patients have polyuria may play a significant part in changing the biochemical constituents of the blood and in group experiments, I think that we must always take into consideration the state of the water metabolism of the body.

DR. ROY G. HOSKINS (Boston, Mass.).—Dr. Cussler raised the question whether our patients developed jaundice—especially those who had the orthocresol. We were convinced such was not the case, for three reasons: both compounds are closely allied to picric acid and change over easily into that or a similar colored substance. The color of picric acid is like that seen in jaundice. The fact that the icteric index was not appreciably affected might be explained as Dr. Cussler suggests by the fact that the test does not appear in the early stages of liver damage. However, true jaundice resulting from liver damage is a somewhat lasting condition, whereas, withdrawal of the drug for a day or two serves to restore the normal color of the skin and scleræ. Finally, the coloring matter in the blood serum, as Dr. Finkelman pointed out and as we have also noted is easily bleached with dilute hydrochloric acid.

SOME IMPRESSIONS OF BRITISH PSYCHIATRY.

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In all countries, psychiatry is characterized by diversity of approach. Often, this diversity is represented by different " schools," each centered in some one leader, around whom a number of ardent disciples have congregated; and the task of describing the psychiatric outlook is the comparatively simple one of treating each school separately, noting its tenets, its scope, and its influence among workers in the field. Occasionally, however, the diversity is not so readily portrayed. It does not consist in a mosaic of clear-cut systems. It is based upon an eclectic blending of many points of view—conflicting, indeed, when examined systematically, but harmoniously related in the practices of the free-lance psychiatrist, who is sufficiently independent of institutionalization to be competent rather than expert.

If the former may be said to apply to diversity in Continental Europe (and, to a lesser degree, in America) the latter applies most assuredly in Britain. There are exceptions to national types, of course. But on the whole, it may be affirmed that the story of British psychiatry is essentially one of persons, rather than of schools and systems. It is a story of interested workers, rather than of ardent enthusiasts; of versatile and insightful observers, rather than of erudite and methodical formulators. Each of the outstanding personalities has drawn more from the setting in which he has worked, than from any university tradition, with its systematic involvements or philosophical bias; and the breadth of his own experience, with its resultant personal outlook, is a measure of the richness of his contribution to the psychiatric art.

An adequate portrayal of British psychiatry would therefore involve a series of detailed biographical sketches. For many reasons this is beyond the scope of the present essay. But the visitor to Britain should keep in mind the fact that his appreciation of the

work in progress there, will depend upon his opportunities for becoming acquainted with the psychiatrists themselves. If he looks for definitely formulated systems and schemes of research, he will be disappointed; for systematization is foreign to Britain. If he expects to be able to pigeon-hole each setting or each man according to any recognized classification of points of view, he will see but a medley of conflict, where the Briton has adopted a working compromise. In the same setting—be it mental hospital, clinical center, or research institution—he will see but the chaos of open-minded electicism, where the British have sought the stimulation of co-operative individualism. He will be puzzled by the existence of contradictory interests and affirmations in the same person, unless he starts with the man himself, and endeavors to catch a glimpse of that man's purview of mental phenomena.

The chief exceptions to this tendency towards an eclectic, personally acceptable point of view, somewhat lacking in systematic form, yet manifesting a definite degree of individualism, are the psychoanalysts. In Britain, as elsewhere, the Freudians wave their doctrinnaire banner in characteristic fashion; and, because they are so exceptional, they stand out very clearly. They have no rival schools of an equally systematized type on whom to make war, or with whom they must compete. They constitute the only group manifesting an easily recognized point of view, concerning which evangelical enthusiasm and energetic defence must be displayed. Hence they appear, at first sight, to be extremely strong, and to suggest that Freudian adherence is an outstanding characteristic of British thought. But, as we hope to show, the main influence of psychoanalysis in Britain is not to be sought in the work of such extremists as *Ernest Jones*, but rather in the attitude towards the analytic system of thought reflected in the psychological trends of the country.

These psychological trends will be considered further in what follows. But we may anticipate that part of our discussion by saying that psychiatric thought in Britain has undoubtedly been influenced markedly by the *hormic* point of view, particularly as propounded by McDougall. If it were possible to classify the psychiatrists according to the systems having the greatest influence in forming their approaches to problems of mental disorder, the

largest group would show a close relationship to hormic psychology. Each of the outstanding men, however, appears to have given that psychology his own particular interpretation. Some of them approach the extreme doctrines of the analysts; others place so much emphasis on the social, environmental pattern of stimulation, rather than on the subjective picture of conflicting mechanisms, that they merge with the objective psychiatrists. In all cases there appears to be so much common-sense individualism and practical electicism, that an attempt to epitomise the thought of any one man in a few phrases can only be misleading. However, the writings of many of these man are so well known that we may safely mention a few cases, for purposes of illustration.

One of the most renowned leaders, belonging to this group of individuals markedly influenced by hormic thought, is *Bernard Hart*—an extremely able interpreter of the various subjective approaches. His most widely read work, *The Psychology of Insanity,* is a masterpiece of clear and concise expression, and leaves the reader wishing that it had been expanded considerably, or that such a writer had been more prolific. Those interested in psychological and psychiatric researches in the abnormal field, employing the techniques of individual differences, have likewise derived great stimulus from Hart's work in collaboration with Spearman;[1] and they, too, have wished that the leads there portrayed had been more ardently followed up with similar insight. *Hadfield,* lecturer in psychotherapy and mental hygiene at King's College, and combining his Harley Street practice with clinical work and teaching at the Institute of Medical Psychology,* shows very clearly the influence of McDougall's psychological thought, particularly in his book *Psychology and Morals.* His training has been remarkably broad, including philosophical, theological and psychological studies, as well as medicine; and he has initiated many extensive researches in the field of observing developmental characteristics of children and adolescents. His contributions to psychiatric literature are well known. Where McDougall stresses "self-regard," and Freud, "sex," Hadfield places great emphasis upon "mother influence," although in a much broader way than is customary in analytic circles. Included

* Formerly "The Tavistock Square Clinic."

in his therapeutic techniques are those of analysis; but again, as would be expected, with a different emphasis from that made by the Freudians. Similarly *Yellowlees'* thinking is closely allied to that of the near-analysts; but the "herd instinct" is given very great importance, as it was by Trotter.

William Brown is an example of that interesting type, frequently found in England, who display brilliant versatility. He collaborated with Godfrey Thomson to write *The Essentials of Mental Measurement*, and proved himself to be a cautious and objective scientist, aware of the dangers of sweeping generalizations in the field of psychometrics. He was seriously concerned with the pitfalls awaiting those who would jump to conclusions regarding the psychological implications of "intelligence" tests. The justification of the contention that a *general* factor must be postulated to account for the results of measurement in the realm of intellectual abilities, was definitely questioned by him, even after Spearman and his workers had produced a remarkably wide array of experimental evidence in support of such a contention. Brown refused to accept the postulation of Spearman's *g* until he himself had produced objective evidence which settled very definitely the question as to whether observed cognitive abilities were actually united by an underlying individual difference, general in its scope [2] —a task that involved careful experimentation, coupled with an extremely intricate mathematical evaluation of the data thus gathered.* This same person—Wilde, reader in mental philosophy at Oxford and Harley Street physician—is well known for his writings in the field of psychotherapy; for his therapeutic practices which involve analysis in which suggestion plays an important rôle; for his writings on psychology. In those writings, mention is made of telepathic and clairvoyant phenomena, and of other matters deemed, by narrow objectivists at least, to be beyond the

* It may be remarked that Spearman's evidence is much more comprehensive than Brown's. The former realizes the fact that, while empirical observation is adequate to demonstrate the existence of a factor *common* to a wide variety of observed measures, something more is required before the notion of a psychologically *general* factor may be postulated. Brown's work (in which he collaborated with Stephenson) adds very valuable empirical evidence regarding *g* as a statistical, common factor. But all this is irrelevant to the discussion presented above.

pale of scientific investigation. One is tempted to raise the question as to how the mathematics of psychological statistics can be harmonized with the vagaries of analytic-therapy, and with the intangibles of psychic research.

Most of the staff of the Institute of Medical Psychology would also pertain to the hormic group: *Rees,* the present director; *Creighton-Miller,* with his notion of freedom being proportional to the degree of emancipation from fears—fear of self (frustration), fear of society (restraint), fear of the future (insecurity); *Hamilton-Pearson,* with his very useful account of personality-types classified as intellectual, emotional, practical, or combinations of these; *Emmanuel Miller,* who is also the director of the East London Clinic; and others. It is refreshing to experience the stimulation of diverse views among colleagues who none the less work freely together; although the problem of devising a meaningful series of lectures by so individualistic a staff, to inexperienced medical students, must be well-nigh insoluble.

The individuals so far mentioned—including the psycho-analysts—are all examples of subjectivists, who adhere to the European emphasis on the individual. A distinctly vitalistic character may be said to inhere in their views of mental development and function. As this vitalism becomes excessive, so are the patient's conscious, rational processes usually given less prominence in depicting the fundamental features of mental conditions. When the vitalistic note tends to disappear, the characteristic modes or patterns of mental functioning receive more attention, as is the case in Kraepelin's monumental contribution to psychiatry; or else the biological-reactive nature of the human organism is stressed, as with Adolf Meyer. All degrees of admixture of these two main divergences from the so-called "depth-studies" of subjective mechanisms, may be found in psychiatric thought everywhere; and in Britain their recent development is interesting and important.

We may take the second one first, because it is perhaps more distinctive in that it contrasts markedly with the general tenor of hormic thought. Instead of viewing the organism in terms of its fundamental propensities, dynamic urges or instincts—self-subsistent, purposive, extremely formal and biologically serviceable; tendencies which conflict, become organized, give rise to complexes,

repress each other, and so forth; objective psychology, as epitomized in behaviorism, stresses the reactive nature of the organism-as-a-whole. It also regards the organism, not as a resultant of a purposive, continuous evolutionary stream, as a participant in a mystical evolutionary process, or as a carrier of inherited formal dispositions; but as a center of reactive potentialities, responding to its environment, and, in responding, modifying its very nature because of the associative continuity of its reactive mechanisms. It becomes conditioned by its environment because of what it does in response to that environment, and because of its essential characteristics of wholeness and continuous modifiability. Its initial responses are determined by its biological structure and corresponding function. Its modifiability depends upon its capacity for associative change. These phenomena seem to lend thmselves to objective experimentation, and may therefore be examined by the proved methods of the natural sciences. So runs the argument; and since the influence of experimental psychology has been greater in America than in England, we may dub this the "American influence," having particularly in mind such names as Adolf Meyer, in psycho-biological psychiatry, and J. B. Watson, in ultra-behavioristic psychology.

In England, the extreme form of this approach will not be found, save (as in the case of psycho-analysis) in the exceptional person. But there are many psychiatrists of outstanding caliber who have assisted in making the objective point of view influential. Many of these men have had wide experience at such American centers as Johns Hopkins. *Gillespie* (at Guy's Hospital) is a case in point, far more so than his collaborator, *Henderson*. *Lewis* (at The Maudsley) is another. So, too, the growth of the child guidance movement in England, stimulated particularly by the Commonwealth Fund, has contributed in no small measure to this development, particularly through the successful work of The London Child Guidance Clinic, under *Moodie*.

The other divergence from the "basement" psychology and psychiatry of underlying mechanisms, has been fostered mainly by recent British psychology, especially as represented in the work of Spearman. Spearman's interest is in the individual, and the essential forms of his behavior; but he very definitely endeavors to avoid the mysteries of vitalism by an insistence upon objective

experimentation. His approach is through the techniques of measuring individual differences. Many of these techniques he has himself devised and elaborated; and his aim has been to employ them for the purpose of discovering the principles of mental activity. In this manner he combines the outlook of scientific experimentation with his interest in differentiable abilities, and thus reflects the influence of two of his greatest teachers, Wilhelm Wundt and Francis Galton. Spearman's findings to date and his method of search suggest the basis of a far-reaching system of psychology, which, if interpreted and applied in the field of psychiatry, with an adequate research program, seems to offer a definite contribution to the abnormal, as well as the normal field. Its pursuance may prove to clarify and to systematize the fundamental significance of Kraepelin's contribution; for, avoiding as it does those structuralistic limitations which are often (erroneously, we feel) read into Kraepelinian description, it depicts experience-as-known in terms of dynamic processes, and systematically attempts to describe how those processes are directed. We shall discuss the significance of this development more fully, later, and shall indicate wherein the contributions of other present-day British psychologists are pertinent to it. At this point we may suggest that, although such a recent development can hardly show itself clearly in the everyday practice of the psychiatrist, it none the less influences the trend of his thinking. The critical genius of *Mapother* (superintendent of The Maudsley) appears to be a pertinent example; for his discussions of the weaknesses—systematic and practical—of analysis, and his penetrating descriptions of disordered mental states, reflect not a little the influence of process psychology.

Up to this point we have endeavored to show, by means of a few examples, that there is a general lack of definite systematic adherence among British psychiatrists, apart from the extreme psycho-analysts; that these latter do not constitute a truly significant group in relation to British psychiatry as a whole; that psychiatric thought has been tremendously influenced by the hormic approach, although each individual moulds that approach to fit his experience and problems; that these subjective interpretations of mental phenomena are being leavened considerably by American reactive-objective psychology, and by the present-day trends in

British psychology. Throughout, we have noted the eclectic nature of the thought of some representative psychiatric leaders, and the tendency for different points of view to be manifest among the staff of any one institution.

We may now legitimately raise the question as to why the hormic (and therefore the psycho-analytic) approaches have had so strong an influence in Britain. We raise this question for two main reasons. First, its consideration may assist us in understanding more fully the significance of the characteristics of British psychiatry to which we have drawn attention. Secondly, it serves as a means of clarifying the real status of analysis there.

Commenting upon the reluctance among psychologists to admit the doctrines of psychoanalysis, Murphy [3] indicates that this reluctance appears to be greater in America than in England. In support of his contention, he writes: "The opinion of Rivers that Freud had contributed more to the understanding of personality than had experimental psychology, the presentation of Freud's work as the 'new psychology' in J. A. Thomson's *Outline of Science* (1922), and the recent appearance in Great Britain of many educational texts written from a psychoanalytic approach, cannot easily be duplicated from recent American history." He suggests that "the greater prevalence of experimental psychology in America, and the tendency of British students to entertain considerably less confidence as to the possibilities of experimental method in relation to the most complicated problems of personality, seem to be directly related to the somewhat more cordial reception which psychoanalysis has enjoyed in Britain."

There seems to be no doubt concerning the fact that England and America reacted differently to Freud's doctrines; and, as Murphy has indicated, there are certain national tendencies behind this difference. The British reception of psychoanalysis was, on the whole, more intimate than the American. Instead of remaining an enthusiasm, localized in a few particular centers, it took the form of a fusion with less extreme points of view. British thought was not entirely out of step with the systematic emphasis made by Freud; American thought was, save in the respect that, for quite different reasons, both Freud and the behaviorists belittled the rôle of conscious processes. The greater emphasis

upon experimental psychology in America, however—stressed by Murphy—most probably originates from the same tendencies which underlie the national receptions of analysis, rather than being itself fundamental to those receptions. Accordingly we shall endeavor to trace a few characteristics of the thought of the two countries, which seem to be more directly related to modern psychiatric and psychological development.

Two of the most important characteristics of British thought in the past, may be stated as follows: (a) In philosophy, psychology, social and ethical theory, the tendency has been to appreciate the value of systematic thinking for what it will do; but not to formulate systems. (b) There has been a pronounced belief in the importance of the formal attributes of mind, of the processes whereby ideas become ordered—as against the belief that mind can be legitimately and adequately reduced to mechanical sequences of ideas, or that behavior can be usefully represented in terms of reflexology. We shall enlarge upon these two characteristics, giving reasons for them, and showing how they are often directly opposed to the analogous tendencies in American thought. Their bearing upon modern psychological and psychiatric trends will then be obvious.

The first characteristic has already been stressed, since we have drawn attention to the lack of systematization in British psychiatry. Its origin may be sought in the fact that British philosophers, in the past, have almost invariably been men of affairs. Bacon, Hobbes, Locke, Hume, J. S. Mill were all intimately associated with the social and political events of their day. Practical affairs, however, set definite limits to the thinking of those participating in them. They show also a many-sidedness that precludes the possibility of fitting them to any one formula. Consequently, the British mind, with its interest in life and events as they are, seeks the aid of whatever systematic formulation seems most pertinent; and does not hesitate to import many systems, conflicting though they may be, when radically different problems demand solution.

This interest in affairs hinders the formulation, and necessitates the importing of systems for other reasons. A system tends to isolate a thinker. It forces him to defend its own particular point of view, and thereby prevents his participation in matters of empire, of social policy, where breadth of purview is essential. Sys-

tematized thought, being logically coherent, self-contained, serves to direct a particular type of action, to solve problems having a particular form. It represents one-way-of-looking-at-things. But at the same time, it limits the interest of the formulator to just those problems which fit in with his point of view. (Thus behaviorism is adapted to "controlling" behavior—the behavior of masses of people.) The "systematic" attitude clarifies the thought pertaining to its own field of vision. But it tends to inhibit the free use of many systems for what they will do. Application must be eclectic. Britain, therefore, accepts the formulation of others in so far as they are pertinent to, and can be handled in, a common-sense world. But Britain seldom formulates.

This contention is very important to us here. It is illustrated repeatedly in past history, and is clarified even by those few exceptions where a Briton has tried to be systematic; for in such cases, the formulator either found himself isolated from the stream of British thought, or else migrated before he formulated his system. In the latter case he then found himself to be sadly out of step with the thought trends of his adopted country.

As examples of the latter, we may take Titchener and McDougall. When Titchener came to Cornell, and carefully constructed his psychological system, James had already set a tone and a direction to American psychology that made Titchener's structuralism out of date almost before its foundation was laid. Functionalism had given new impetus to theoretical, experimental and applied psychology, and could not be impeded by Titchener's analysis of mental content, however carefully that analysis may have been conducted. So, too, McDougall, after writing his *Social Psychology* in 1908—probably his greatest contribution to the development of psychological thought,—came to Harvard in 1920, and formulated a systematic presentation of purposivism. But he failed to realize that, by this time, behaviorism had become a national enthusiasm. Both Titchener and McDougall, therefore, resembled voices crying in the wilderness.

Similarly, the exceptions of earlier times—Hobbes and Spencer—are two of the loneliest figures in the history of thought. They are the only English philosophers of pre-modern days who attempted to formulate real systems. Hobbes, in his *Leviathan,* systematized a view of man's behavior in a manner very similar to that of

Watson. He showed how the only way to control behavior adequately was by means of a clearly conceived and fully unified social compact; and thereby he formulated a defence of the absolute monarchy. Here was an Englishman, exceptional in that he was brilliant, but still more exceptional in that he was trying to do a particular thing. Unfortunately for Hobbes, Charles the First lost his head; and his philosophic defender had to seek refuge in France, Spencer, in more recent times, was equally alone, in that his *Synthetic Philosophy* will doubtless be important in any survey of past thought merely as representing a philosophic *cul-de-sac*. A single formula, ambitiously applied throughout the entire realm of phenomena, loses its meaning by its very extensiveness. It conveniently ignores problems of explanation, in that it forces all description into an accepted framework.

We repeat, therefore, that British's philosophical and psychological contribution has not been in the direction of producing systems. There is something suspicious about too well-formulated a plan. It cramps freedom of action, narrows one's outlook upon the world, limits interest to doing things that can be done by the system. But in so far as any system works, we may use it; and in using it, the practical significance of the formulation is enriched. The British genius shows itself just here; for, having imported such systems as seem to him useful, the Briton proceeds to compromise them by adding a great deal of common-sense. Systematic purity, for which the formulator struggled, is sacrificed in the interests of practical utility. And only by thus avoiding narrow enthusiasm can we maintain an attitude of open-mindedness, of impartial evaluation based on empirical demonstration.

The implications of this characteristic are obvious, when related to the question as to why British psychiatry was strongly influenced by subjective systems. When the mass of psychoneurotic material, which appeared under war and post-war conditions, led psychiatry more and more towards a functional point of view, when organic approaches seemed inadequate to meet the growing practical demands, it was natural for Britain to import a good deal of psychoanalytic thought. In other fields, too—the social sciences, mass psychology, the psychology of religion, and the like—this importation was obvious quite early in the present century. In psychoanalysis, a ready-made formulation that seemed to apply to some of the prob-

lems at issue was available. But in importing it, there was no nation-wide enthusiasm that limited the British interest to the doctrines of Freud. Common-sense would, in the main, be so thoroughly mixed in with the analytic approach, that the extreme Freudian would not recognize (professionally) his own tenets in the resulting compromise. Thus, while such leaders as Hart, Hadfield, Brown, Yellowlees undoubtedly owe a great deal to psychoanalysis, they would certainly not be classed with such enthusiasts as Jones and Melanie Klein. They have mixed so much commonsense with their dynamic outlook, and have shown such a regard for other systems, that they are decidedly not followers of Freud. The enthusiasts, who not only refuse to mix common-sense with analysis, but also insist that such admixture is impossible, are a lonely group. Their main influence is probably against any progressive conversion of their British confrères to the psychoanalytic faith. Indeed, the attitude of "all or none," of "complete surrender" is likely to detract considerably from the contribution that psychoanalysis has to offer.*

The second characteristic of British thought, mentioned above—the tendency to emphasize the importance of formal attributes of mind, of the processes whereby ideas become ordered—grows out of the first. Leaving systematic formulation largely to others, the Briton does not cultivate the brilliance of the intellectual. The hard grind of polishing up a system of thought can be undertaken by the Frenchman, the German, or—in more recent times—the American. But the Briton is more interested in the affairs to which these sparkling systematizations can apply, rather than in the formulations themselves. He therefore uses his intelligence, observes trends, faces problems as he comes to them, appraises systems in

* In support of the contention that analysis as a fetish or as an enthusiasm seems totally out of harmony with British tendencies, the work of Melanie Klein may be cited. The visitor to London will doubtless be extremely interested in Dr. Klein's analytic procedures for treating children from an early age. Her sexual interpretations, to the child, of his innocent manipulation of toys, appear so bizarre (to put it mildly), that no one would predict any marked assimilation of her notions in psychiatry generally. Similarly, Lowenfeldt and Isaacs, while much less extreme, appear to represent an analytic approach to problems of childhood which is not likely to commend itself widely.

the light of their pertinence to these problems. He feels so convinced of the importance of this ordering process, that any attempt to reduce mind to the ideas themselves cannot be tolerated.

This characteristic is clarified somewhat by suggesting, as an analogy, the British attitude towards money. It may be said that in America, a great value attaches to the getting of money. The Englishman cares little how he gets it—so long as it comes more or less honestly. But he values very highly its use, and cultivates the art of enjoying the things money will do for him. So in the realm of ideas. He maintains a somewhat detached air, reflecting upon this approach or that in relation to his problems, seeing possible new ways of looking at these problems even while they are being solved to a degree by the application of existing systems of thought. New ways of looking at problems will ultimately give rise to new systems of thought; so that, in England, more obviously than in most countries, there exists a strange mixture of the out-of-date and the ultra-modern. British practices often reflect the application of systems formulated earlier in other countries; British utterances frequently initiate lines of thought that will form the basis of later systematizations. And permeating that picture in an almost unique way, is an artistic, somewhat indolent, thoughtful appraisal of practical affairs, of ideas pertinent thereto, and of possible re-organizations of ideas that would prove to be more effective.

This characteristic is no less important to our question than the first. It may be conveniently illustrated by recalling that typically British philosopher, John Locke. Locke did not display the brilliance of Hobbes. He had no particular axe to grind, although he was extremely interested in the social and political affairs of his day. He put forward some remarkably common-sense notions as to how the mind develops from its simple beginnings, devoid of ideas, to its mature complexity. One aspect of Locke's genetic account—which stressed sensation as a fundamental source of ideas—was systematized on the Continent, particularly in France. The pure sensationalism of Condillac is the inevitable consequence of thus systematizing this particular part of Locke's empiricism. Some time later, the systematized product was imported into Britain by the philosophic radicals, headed by Jeremy Bentham. Just as complex ideas could be regarded as combinations of simple ideas, happi-

ness might reasonably be a compound of pleasure-units. The moral worth of an act could therefore be judged according to its pleasure-consequences—to the individual and to his fellows. Out of this came the impetus of utilitarianism, which directed a large number of social and political reforms. But when, through Bentham's St. Paul—James Mill—and particularly through John Stuart Mill, the mechanics of associationism tried to make inroads into British psychology, a truly British reaction soon set in that prevented the reduction of mind—particularly the British mind—to mere items of sensory content, mere sequences of ideas directed according to mechanical associationistic principles. That form of the associationist doctrine, which, when systematized, represents a psychology of static mental elements, of mere phenomenal existents, is not the sort of doctrine that could be tolerated in Britain. In the natural sciences, mechanistic postulates may be used without question; and in the realm of natural science Britain has produced its Newtons, its Darwins indeed. But even here the search has been for principles underlying the dynamics of physical change, rather than for a formula to which all phenomena must be fitted. Even Hartley's *Observations on Man,* which gave physiological support to systematized associationism, found favor in England only so long as it suggested principles that assisted the understanding of certain limited aspects of mental content. Any attempt to reduce mind entirely to such principles was doomed to failure. Perhaps that is one reason why the most outstanding critique of associationism was written by an English psychologist, James Ward.[4]

While systematic associationism is thus going forward, particularly on the Continent, British thought carries on in its mobile way, and maintains its conviction that the formal, reflective characteristics of mind are basic in determining mental development. What the adult is, depends not merely upon accidents of stimulation whereby certain experiences, certain ideas rather than others, are present in his consciousness. The mind's awareness of its ideas, its reflecting on its own operations, consciousness as activity, must be reckoned with; and the processes whereby ideas become known and ordered must be given important consideration. Locke had stressed this as the more important aspect of his empiricism; but it was overlooked by that extreme form of associationism which reduced consciousness to the ideas themselves.

Now, this phase of mental development was systematized particularly in Germany; and Britain was, of course, quite ready to import the systematized product. In the *Critique of Pure Reason,* Kant offered an account of the fundamental forms of the human intellect; in the *Critique of Practical Reason,* the forms of judgment and will. Since Kant's day, analogous systematizations have sometimes tended to treat mental forms as fundamentally intellectualistic (Hegel's, for example); others have presented mind in voluntaristic terms (Schopenhauer, Nietzsche, Bergson, etc.). So that thought seems to have gone in waves, oscillating from intellectualism to voluntarism, and back again. Freud's psychological system obviously pertains to the voluntaristic group, as does McDougall's hormic approach. Obviously, therefore, Britain, with its tendency towards formalism in psychology, will readily take cognizance of formalistic systematizations; and at the time of Freud's greatness, Britain was thinking more along voluntaristic than along intellectualistic lines. If we see this latter trend more clearly, we shall then see why British thought was more intimate in its recognition of psychoanalysis and hormic psychology than was the case in America.

The voluntaristic trend in Britain may be observed particularly during the heyday of the theory of evolution. The biological emphasis preceding Darwin's hypothesis was, of course, on the relationship between environment and organism. Britain, as we have seen, was willing to view behavior that way to a limited degree, but not to regard consciousness as epiphenomenal to mere reactive adjustment. When, therefore, the parallel changes between organismic function and environmental circumstances were stressed by the doctrine of evolution, the dynamic behind the organismic change tended to be conceived in vitalistic terms.* Hence the rise of eugenics as a field of scientific inquiry; hence also the influx of instinct theories, purporting to account for the characteristic forms of

* Again a contrast with American thought is here evidenced. Behaviorism, for example, prefers to accept the organism as he now is, and to examine him as a system of reactive possibilities when stimulated by his environment. Problems of vitalism, of the evolution of functions, of heredity, are thus discarded; and the field is open to objective observation and experimentation. National temperament as conditioned by national problems, is undoubtedly illustrated by this difference.

human behavior. Instead of describing the forms of human thought in terms of the conscious mental act, as did Ward; instead of analyzing persistent trends of thinking into the "dispositions" acquired during earlier exercise of the knowing processes, as did Stout; the emphasis is now placed on the hormic motivation underlying all these cognitive operations. McDougall's formulation is the English culmination of this movement—participated in by Shand, Drever, Trotter and others.

Our question is therefore answered by saying: (a) Britain commonly imports systematizations of thought, and only infrequently formulates a system of her own. (b) She leans, in psychology, towards a belief in the formal aspects of mental activity. (c) At the end of the nineteenth, and beginning of the twentieth centuries, her formalism was tending to take a hormic direction. (d) The practical demands of functional psychiatry made a dynamic formulation very timely. (e) The importing of psychoanalysis therefore fitted in with the characteristics of British thought and with the needs of the time; and an intimate relationship between Freudianism and British psychology was quite natural.

But as the stream of British thought flows slowly on, other influences are seen to be at work. Freud may have something to offer to the history of thought, and to the practical art of healing the psychoneurotic. But as the Briton cogitates upon this system, he gradually views with alarm the logical paradox involved in its conceptions. Consciousness, that seems to be mysteriously wonderful, active, important in ordering one's inner life, has now been described as of secondary significance. Our thoughts are at the mercy of our unconscious (non-conscious) drives; our reason is but a rationalization of an ugly cesspool of sexual desire. Freud's presentation, therefore, is a mere accident of his own particular set of libidinous entanglements; and mind has been stolen once more from its pedestal. Even though analysis may contribute to therapy, even though its doctrines may seem to merge with much of the thought sponsored by psychology, it *must* be very limited in its purview if it reduces mind, truth, and all the things believed in by the Briton, to so sad a state. Thought must go on—and on a higher plane than this—or else the outlook is hopeless.

It is not surprising, therefore, to find a tendency towards reestablishing conscious functions in their British place of honor. At

work here can be seen the influence again of psychology. We have noted the scepticism of Britain in regard to reducing mind to the mechanics of associationism or of reflex movement. In a way, experimental psychology had its rise in such an attempt to examine mind under the direction of a mechanistic approach; and in this sense, experimental psychology has had a much less enthusiastic reception in Britain than elsewhere. In America, Wundt's influence was immediate and widespread. But in England, Ward had a long fight against the view that experimenting with mental phenomena would involve the evils of mechanistic interpretation of the soul, before he could finally establish a laboratory at Cambridge. When, however, the method of "individual differences" had advanced sufficiently to show its pertinence to the search for principles of mental activity, scientific psychology began to take on a new aspect. The work of Spearman, for example, seeks to establish by experimental means, the basic processes involved in conscious activity—processes whereby our experience becomes known and organized; processes which reflect the essentially creative attributes of mind. In harmony with this, although by a somewhat different method, Bartlett's work in the Cambridge laboratory is extremely significant. In his recent book, *Remembering,* Bartlett takes definite exception to any view that ignores consciousness as active. Watson's account of development is as unsatisfactory as Freud's; for it would make intellectual formulations the mere accidents of previous conditioning, and thereby would limit Watson's own formulation to the unimportant place of a mere incident in the stream of time. Bartlett, therefore, discards the limitations of previous approaches to "memory," wherein "meaningless" nonsense-syllables have served to represent isolated mental elements; and seeks to understand how consciousness orders its experience in drawing upon its past organizations to interpret present problems; and so on. Similarly, Aveling's work at King's College (London) is very significant. His thought reflects a thorough appraisal of the Scholastic contribution and emphasis, and also the influence of his former teacher, Michotte at Louvain. Particularly in this latter regard, Aveling is closely related to the Würzburg School, who did so much towards indicating fundamental lines of studying the thought processes. The anti-sensationist atmosphere among London psychologists is such that Aveling's revision of the work of Külpe, Ach, Michotte, ap-

pears to be far more harmoniously related to the Berlin *gestalt* contribution, than was the earlier attempt to portray the dynamics of thinking. In some ways it is more positive than *gestalt* psychology; for, not being so directly concerned with systematization, nor with the critical destruction of sensationist opponents, it is able to proceed with the positive work of portraying the nature of conceptual thought, the influence of general concepts in directing and motivating and ordering experience, the processes which constitute mental development, and so on.

The influence of all this on psychiatric thought is not easy to perceive or describe. However, what has already been said will point to the close contact between psychology and psychiatry in Britain, and will indicate, therefore, that these psychological trends are of significance in appraising the psychiatric outlook. There is an increasing tendency to emphasize the thought life of the patient, to try to get an intimate picture of how things look to him, why his experiences are colored as they are, as a starting point for assisting him to adjust his thinking, and to direct it into more universally adopted channels. The peculiarities of his powers of mobilizing his experience, the paucity of his phenomenal pictures, the weakness he shows in interpreting observed presentations—these would be regarded as responsible for affective disturbances, rather than as reflecting an underlying affective abnormality. And from this point of view, experimentation seems more possible as a complement of clinical examination.

It appears, therefore, that British thought is swinging away from the hormic approach to problems of mind, towards one that gives due regard to the formal characteristics of conscious activity. This tendency is enhanced by the contribution now being made by experimental psychology, which has itself developed beyond the limits set by atomistic and mechanistic methods. It is also enhanced by the increasing interest in child training and clinical guidance, where common-sense appraisal of existing abnormalities and possible lines of healthy functioning necessarily involve the concepts of experience-as-known.

In conclusion it may be fitting to suggest that the intimate relationship between psychiatry and psychology, manifested at many points in Britain; the open-mindedness that permits various radically different approaches to work in co-operation with each other,

provided that each can be applied with a generous admixture of common-sense; the tendency to avoid undue enthusiasm for any one particular system; are points which are worthy of notice. Much as America can give to England in the mental field, England has something to offer in these respects.

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THE ETIOLOGY OF TEMPORARY AMNESIA.*

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An interesting and readable bit of news is frequently noted in the daily newspapers concerning individuals wandering aimlessly about and unable to give any account of themselves, who have been picked up by the police. In a large city, such as Philadelphia, a great number of these cases are brought to the psychopathic ward of the General Hospital, and the question naturally arises as to what the causative factor has been in producing the sense of loss of identity in these patients. I am frequently asked this by lay persons, as well as by others in our profession, and, in an endeavor to reach some conclusions, I have had recourse to the psychopathic service of the Philadelphia General, the Orthopædic, and the Chestnut Hill Hospitals, in Philadelphia. In the year 1931 there were admitted to the psychopathic wards of the Philadelphia General Hospital 4039 patients, of whom 2265 were men and 1774 were women, and of that number 301 men and 140 women died on the wards. The average of approximately 4000 admissions a year was maintained in the years 1932 and 1933, and it is from the admissions of these three years that most of the 104 case histories have been gleaned, many coming from my own services in these hospitals. All of these patients suffered a loss of personal identity and an amnesia for time, place, names, and events over a longer or shorter period prior to their arrival in the hospital, and a great majority were entered in the books under the caption of " unknown person."

The literature on this subject is not very plentiful. Most of the articles are in the Italian and German literature. There are numerous reports of individual cases which are extremely interesting in themselves, among which are those by M. E. Erickson [1] in the *British Journal of Medical Psychology*. The reports of Douglas

* Read at the ninetieth annual meeting of The American Psychiatric Association, New York City, May 28–June 1, 1934.

Thom [2] (Amnesias in War Cases) and the article by S. Gibson,[3] "Abnormal States of Amnesia and Subconsciousness," are very instructive.

It appears to be the general consensus of lay opinion that for a person to have a sudden complete amnesia he must suffer from some severe physical or mental shock. It is worthy of record that among the 104 cases that have been investigated in this report, 22 distinct etiological factors were discovered to be active in the production of the amnesia.

Trauma Group.

Concussion of the brain, followed by complete amnesia, was present in three cases, all white males, ages 36, 50 and 60. One white male, age 44, was admitted with a complete memory cut-out and was found to have a large linear fracture of the left fronto-parietal bone as a result of a fall against an iron upright in the street.

Toxic Group.

A white male, age 40, who was discovered in the lower wards of the city in a totally amnesic condition, was found to have a toxic psychosis from renal disease.

Acute alcoholism with complete memory ablation was found to be the causative factor in nine cases, eight of whom were males, seven of the white race, whose ages were between 35 and 40. Chronic alcoholism was the etiological factor also in nine cases, all of whom were males, but the age in this group was between 40 and 60.

Diabetic hyperglycæmia was the cause of the condition in one male, age 50. These constituted the majority of cases that were due to endogenous or exogenous toxic factors.

Psychotic Group.

Among the psychotic group, there were two females, both in their 30's, who were diagnosed as having paranoid psychoses, in which their apparent endeavor to lose their identity was for the purpose of avoiding their "enemies" who were pursuing them. Among the schizophrenic group there were five males and two

females, between the ages of 21 and 30, of which number only two were negroes. Every one of these patients exhibited a distinct and definite loss of personal identity sense at the time of their admission to the hospital, but soon the mental picture changed and there developed the more usual manifestations of præcox, and eventually all became permanent hospital residents. There were four cases of senile dementia, two males and two females, all white, between the ages of 68 and 81. These old folk were found wandering on the streets of the city and could give no account of themselves. They were sent to the hospital where they were diagnosed as very definite cases of senile psychoses. Involutional melancholia was responsible for one case in a white male, age 50, who later admitted that he was endeavoring to "get away from himself because of the sins that he believed his real self had committed." There were four cases of manic-depressive psychosis, all of whom were in the manic stage, three white males and one negro female, between the ages of 30 and 47. There were also four cases of complete loss of memory, three of whom were white males, between the ages of 40 and 55, who were found to be suffering with general paralysis of the insane.

Constitutional Mental Inferiority.

It is worthy of mention that there were four cases, three males and one female, diagnosed as constitutional mental inferiors, ages 10, 11, 17, and 35. Thus, all of the children in the group who were picked up in this condition were found to be defectives.

Epileptics.

A most interesting group of these patients came under the classification of post-epileptic fugue states. There were 10 of these, nine white males, and one negro female, between the ages of 20 and 60. Following are two cases:

1. J. B., male, age 28, had been sent to the hospital for study concerning epilepsy. He wandered away and was discovered five days later roaming around the mountainside in his pajamas with absolutely no memory of self or place. Two of the nights had been quite cold, although it was in the month of May, but he suffered no serious physical results from his exposure. On the sixth day, his memory suddenly returned and the events of the previous five days remained permanently a complete memory cut-out.

2. W. K., male, age 28, a patient at the Philadelphia General Hospital, had had three distinct episodes of post-epileptic fugue states which lasted in some instances as long as five weeks. On one occasion he went from Philadelphia to New York City, remained there and obtained a position under a name other than his own, and upon suddenly "coming to," there remained a complete memory cut-out for all of the time that he had been away. For this condition he was admitted to the Philadelphia General Hospital in 1929, and a diagnosis of epilepsy and constitutional psychopathic inferiority was appended to him. In December, 1933, he disappeared again, and five weeks later he suddenly "came to" in Toledo, Ohio, where he was engaged in business and living under the name of his brother, which name had been derived from an envelope bearing his brother's name and was in his pocket when he went away. An encephalogram was done upon this patient and a marked cortical atrophy was noted on the films such as is frequently seen in old chronic epilepsy.

Psychoneurotic Group.

Among the psychoneurotic group with memory cut-outs, the most frequent etiological factor was hysteria, and it is interesting to note that among the 12 cases in this group, nine were white females between the ages of 20 and 45, the majority being in the 20's. Most of these cases resulted from emotional shock, fright, or worry. One man, age 40, had attempted to hang himself because of severe financial losses, but in the "drop" the rope broke and immediately the patient developed a complete memory cut-out. This was an excellent example of conversion hysteria accomplishing, through the medium of a psychoneurosis, the result that the man had attempted to accomplish by self-destruction. In view of the desperate environmental condition of this patient, it was a long time before normal memory recognition was restored.

Another interesting case in this group of hysteria was that of a nurse in a Philadelphia hospital:

3. K. C., female, age 20, born of Irish parents, had been admitted to training as a probationer. Because of her "slight" stature she had been told by the other nurses, in a spirit of fun, that they did not think she would be accepted for training. Toward the end of her probationary period she developed a "grippy" cold and complained of headache, vertigo, mental dullness, and fever. As she was desirous of making good, she did not report "off duty." On the night of December 31, 1932, she felt very ill and remarked that for two days she had had difficulty in seeing, that her vision was blurred, and that she frequently "saw double." She finally asked to be relieved from duty, and went to her room, where she collapsed. For a

number of days she was quite somnolent, this condition being followed by a period of insomnia. I saw her on January 5, and my tentative diagnosis was "post-influenzal encephalitis." The chief symptom at that time was profound asthenia, she being unable to raise herself from the bed, nor could she hold her head up. She could use both arms and legs, but they rapidly fatigued. By January 12, one week later, she was absolutely unable to move either arm or either leg in bed and there had developed a persistent ankle and patellar clonus, and this condition of motor paralysis with muscular hypertonicity continued for many months. About the middle of March she developed a paralysis of the muscles of deglutition and she had to be tube fed. Laboratory examinations of many kinds were done, none of which proved anything. By the end of April the contractures of the tendon Achilles had become so severe that her feet were constantly rigidly extended, and there was such a pronounced sweating of the hands and feet that her bed clothing would become quite wet where they lay. During this time her pupils were widely dilated, but they reacted well to light and in accommodation. No abnormalities of the fundi were observed at any time. During the period from December 31, 1932, when she collapsed, until June 12, 1933, she showed an entire change of personality. She failed to remember any of her former friends or the doctors and nurses, and she failed to recognize herself. When she was told what her name was she would say "No, that is not I, I am Kay." She failed to recognize me as her examining physician, although she knew me quite well, and she even gave me another name by which she always called me. She gave different names to all the nurses with whom she had formerly been associated. The things that she had been used to talking about she had forgotten; she developed new friendships with people whom she had previously disliked, and upon recovering on June 12 she failed to recognize these new friends and returned to her original ones.

During this six-month period of alteration of personality she developed a new manner of talking. At first I thought it resembled Pennsylvania Dutch, but she had never had any association with these people. I had the head nurse ask her questions and take down her expressions, some of which are as follows:

"It did down fall on you and you did not did."

"Dr. Lover (meaning Dr. Leavitt) said he was going to bring them in me to see."

"It is night getting to be."

"Give I please the bed pan."

"Up me put please."

"I do not do want it."

"You won't it take and let me see what you have do."

"When the doctor do come, say to him, 'In come.'"

"To him I do want to tell."

"I no do sleep. He not believe it."

The contractures of the tendon Achilles increased to such an extent that it was decided to anæsthetize her and break them up. About noon of July 12,

1933, she was anæsthetized under gas. She was returned to her room, and the visiting physician was surprised to note that there was a great change in her manner of talking, and that the tone of her voice and her facial expression had undergone a complete alteration. She said, "I must have been asleep," and when questioned she said the last thing she remembered was going to her room on New Year's Eve. She was very much concerned to wake up and find the trees in full leaf. She inquired concerning the overnight pass she was to have had on New Year's Day. Of the period from December 31 to June 12 she retained absolutely no memory. During the course of this illness she had developed an acute abdominal inflammation. A laparotomy was performed and a large right cystic ovary was removed and the usual appendectomy done at the same time. She had had a complete ether anæsthesia for this operation, and it had failed to alter her personality change. Following June 12, when she returned to her normal state, she had no recollection of any of the surgical procedures that had been done. From that time until the present the patient has been perfectly normal in all respects.

The question in this case was whether she had suffered a depersonalization with alternating personality as a result of an acute epidemic encephalitis, or an hysterical cut-out as a defense mechanism against the possible loss of her position as a probationer nurse. The consensus of opinion at the staff meeting was that the psychoneurotic element was predominant.

Undiagnosed.

There were eight patients between the ages of 19 and 40, of whom three were females, who were discharged from the hospital undiagnosed other than "amnesia," no cause of their condition having been discovered while they were at the hospital. The following is the history of one case:

4. W. R., age 19, male, was a college boy who was admitted to the hospital with a complete memory cut-out for events and persons, and he was unable to locate places geographically. While in the hospital, he was given various types of intelligence tests which showed him to have quite superior ability. In the Binet-Simon test he passed at the superior adult level, his vocabulary being quite superior and comprehensive. His judgment and reasoning ability were excellent, and he showed well-rounded ability for work. Physical examination was negative with the exception that his blood pressure was 160/100. While in the hospital he was recognized by his aunt, with whom he lived, who gave the following history: For many years he had lived in a home which was dominated by his stepmother. He then came East, and two days prior to the development of his amnesia he went to Atlantic City. While there, he lost a five dollar bill, which was quite a shock to him, and then, while bathing in the ocean, he was swept beyond his depth and had to be rescued by the life guards in a very water-logged condition, this mischance frightening

him still further. Upon returning to his home in Drexel Hill a letter was there from his father, who was in the West, informing him that he could give him no further financial assistance. The boy brooded over these things that night, and the next day went out for a walk, and many hours later that day he was picked up by the police, miles from his home, and brought into the psychopathic ward of the Philadelphia General Hospital for the condition mentioned above. This occurred one year ago, and it was six months before any recall of memory concerning his former life became manifest. From then on, for a period of six months, his memory gradually returned. This slow return of function is in contrast to the usual sudden complete return of memory which we encountered in most of our hysterical cases.

Organic Neurological Group.

Among the organic conditions, cerebral vascular lues accounted for five patients between the ages of 35 and 50, two males and three females. Cerebral vascular disease, nonluetic, was responsible for nine cases, five males and four females, all over 45 years of age. Three of these proved to be cases of motor aphasia with word deafness and, in one case, word blindness. It is interesting to note that four deaths occurred in this group while they were in the hospital, these being the only cases who had had this symptom complex that died.

Malingering.

Eight patients fell into the classification of malingering, and it is interesting to note that of the five females in this group, two were illegitimately pregnant, one of whom had a coincidental syphilis, and another had endeavored to commit suicide by taking potassium permanganate because of an illegitimate pregnancy. The other three women, referred by the Y. W. C. A., had been picked up by railroad police who found them wandering aimlessly about the railroad terminals unable to give an account of themselves. As it turned out, all were young, married women from rather good homes who had come to the city clandestinely, had overstayed their time, and were afraid or unable to go home on account of the lateness of the hour. They had conveniently developed an amnesia in an endeavor to avoid the consequences of their escapade. All three of the men who were feigning loss of memory were recognized by the police as criminals who were wanted by the court, and they were transferred immediately to their custody.

Summary.

1. The investigation showed that many etiological factors may underlie the production of amnesia and loss of identity.

2. In the 104 cases studied, the great classifications were organic brain disease, functional mental disease, the psychoneuroses, exogenous and endogenous toxæmias, epilepsy, and malingering.

3. Males constituted the great bulk of the cases, with the exception of the psychoneurosis-hysteria and the malingering group, where females predominated.

4. Among the negro race, females constituted the great majority of the patients, very few negro males developing amnesia.

5. The most melodramatic and interesting cases were those that were of an hysterical or epileptic genesis.

6. In children, the condition occurred only when constitutional mental inferiority was present.

7. The ratio of amnesia cases to total cases admitted in an acute psychopathic hospital service was 1 : 120.

SEX, RACE, AND AGE OF PATIENTS.

I. Toxic States.

Acute alcoholism.	Chronic alcoholism.	Toxic psychosis.	Diabetes.
1. F. Negro 28	1. F. White 40	1. M. White 40	1. F. White 50
2. M. " 35	2. M. " 54		
3. M. White 60	3. M. " 72		
4. M. " 40	4. M. " 40		
5. M. " 40	5. M. " 34		
6. M. " 40	6. M. " 50		
7. M. Negro 40	7. M. " 52		
8. M. White 34	8. M. " 28		
9. M. " 40	9. M. " 40		

II. Psychoses.

Senile dementia.	Mania.	Paresis.	Schizophrenia.
1. F. White 70	1. F. Negro 30	1. F. White 40	1. F. Negro 22
2. F. " 70	2. M. " 51	2. M. Negro 29	2. F. White 30
3. M. " 81	3. M. White 47	3. M. White 47	3. F. Negro 22
4. M. " 68	4. M. " 32	4. M. Negro 55	4. M. White 22
			5. M. " 21
			6. M. " 25
			7. M. " 30

Paranoid psychosis.	Involutional melancholia.
1. F. White 45	1. M. White 50
2. M. " 31	

III. Psychoneuroses.

Hysteria.			Anxiety psychosis.		
1.	F.	White 35	1. M.	White	30
2.	F.	" 40			
3.	F.	" 20			
4.	F.	Negro 21			
5.	F.	White 45			
6.	F.	" 25			
7.	F.	" 35			
8.	F.	" 25			
9.	M.	" 45			
10.	M.	" 40			
11.	F.	" 22			
12.	M.	" 40			

IV. Undiagnosed (Amnesia).

1.	F.	Negro	24
2.	F.	White	50
3.	M.	Negro	40
4.	M.	White	40
5.	M.	"	19
6.	F.	Negro	28
7.	M.	White	38
8.	M.	"	38

V. Organic Disease.

Fractured skull.				Concussion brain.				Luetic cerebro-vascular disease.				Non-luetic cerebro-vascular disease.			
1.	M.	White	44	1.	M.	White	60	1.	F.	White	50	1.	F.	White	55
				2.	M.	"	36	2.	F.	Negro	40	2.	F.	"	60*
				3.	M.	"	50	3.	F.	"	48	3.	F.	Negro	78*
								4.	M.	White	50	4.	F.	White	67
								5.	M.	"	30	5.	M.	"	83*
												6.	M.	Negro	50
												7.	M.	White	45
												8.	M.	"	60
												9.	M.	"	65*

* Died.

VI. Epilepsy.

1. F. Negro 30
2. M. White 60
3. M. " 34
4. M. " 43
5. M. " 20
6. M. " 40
7. M. Negro 38
8. M. White 34
9. M. " 40
10. M. " 30

VII. Malingering.

1. F. White 34
2. F. " 28
3. F. " 20
4. M. " 28
5. M. " 32
6. M. " 30
7. F. " 38
8. F. " 28

VIII. Constitutional Mental Inferiority.

1. M. White 35
2. F. " 10
3. M. " 17
4. M. Negro 11

IX. Constitutional Psychopathic Inferiority.

1. F. Negro 30

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REMARKS INTRODUCTORY TO THE SYMPOSIUM ON THE RELATION OF PSYCHOANALYSIS TO PSYCHIATRY.*

By A. A. BRILL, M. D., New York City.

Last year you authorized a number of your Fellows to form a Section on Psychoanalysis within the Association, and today we bring you this symposium on the relation of psychoanalysis to psychiatry to mark the beginning of the new era in the history of psychoanalysis in America which you have thus initiated. We are mindful of the fact that most of you are quite familiar with the concepts of psychoanalysis and that many of you have seen some instances of its practical application to psychiatry. You have listened for well-nigh a generation to papers and discussions on the subject of psychoanalysis. You have been more than kind for these many years in offering us hospitality, dispassionate consideration of our information, and the encouragement and very great assistance of your discussions and criticisms based on clinical experience. While the outside world was in doubt of our respectability and intentions, you invited us to come to your meetings and, so to speak, display our wares. You disregarded the cant and vituperations hurled against us by our unthinking, unfair, or actually stupid detractors. When you gave criticism, it was the criticism of sincere seekers for the truth, and as such it was generous encouragement. In all those years, I never heard here such nonsense and special pleadings as were sandwiched into this meeting yesterday by one of those who welcomed you to this city.

Today, in this ninetieth meeting of our Association, psychoanalysis comes no longer as a guest, but as a component part of American psychiatry. By the formation of a psychoanalytic section, you incorporate us in your body politic, and by strong official ties make us an integral part of your scientific program for the advancement of psychiatric thought and practice. Carpings and

* Read at the ninetieth annual meeting of The American Psychiatric Association, Section on Psychoanalysis, New York City, May 28–June 1, 1934.

misinterpretations, quibblings and confusions, no longer becloud the issues for us, for you have recognized the value of the contributions of Professor Freud to psychiatry and psychopathology in general. To us who have been long and intensively occupied with psychoanalysis, this official recognition is the realization of a cherished dream. For psychoanalysis in this country, your action means not alone recognition by the greatest body of psychiatrists in existence, but also the admission of psychoanalysis to the guardianship of an environment most suitable for the development and refinement of our valuable scientific and therapeutic tools. In your midst, we feel at home. Here we can exchange views and clinical experiences beneficial to all of us. Here, if necessary, you will exert control and check any luxurious but perhaps unhealthy excrescences that are prone to sprout forth in any rapid new growth. Here, we are where we belong, for psychoanalysis belongs to psychiatry. Let there be no quibbling about it; psychiatry is its birthright. In his autobiography. Professor Freud states: *"Die eigentlich medizenischen Faicher zogen mich—mit ausnahme der Psychiatrie—nicht an";* freely translated, "Of all the medical specialties, psychiatry alone attracted me; psychiatry alone appealed to me." And the first followers of Freud were all psychiatrists.

The Zurich school of psychiatry, headed by Bleuler, was first to recognize the merits of psychoanalysis, and to bring it before the psychiatric world. It would take too long to review the whole development of psychoanalysis from that recognition, but it may be well to review briefly the beginnings of its recognition in this country. As far as I know, the first efforts to introduce Freud's teachings here occurred in 1908—the year also that Clifford Beers gave out his great work, "The Mind That Found Itself." The year is thus memorable for the launching in America of two movements, each unconscious of the other, that were destined to play a great part in this country, and particularly in our specialty, psychiatry. At this point I must ask your indulgence for mentioning myself, for, in speaking of the history of psychoanalysis in American psychiatry, I must relate the almost accidental circumstances that propelled me, as it were, into my part in it.

As a student in the College of Physicians and Surgeons here, I met and came under the kindly influence of Dr. Frederick Peterson, one of our members. I need not tell the older generation who

Frederick Peterson is, but the young world all too seldom looks to what has already been done, and we come and go and are readily forgotten. Frederick Peterson is one of those who worked very hard to promote the best in psychiatry in this state, and, I may say, in this country. He labored in his lectures to tell us that psychiatry as a specialty was well worth considering, though it was at that time held in disrepute among medical men generally. He counselled me as to my training and introduced me to the State Hospital service, and when I had worked there four and one-half years, and had become restless with psychiatry, it was he who advised me to go to Zurich. I remember his saying to me "I was there myself for a few months, and did some work with Jung. I am sure that the Freudian approaches to psychiatry as they do it over there will appeal to you." I must say at this point that Peterson, though he has always remained very friendly to me, has changed his mind about psychoanalysis, and has been against it for a number of years. This is one of the mysteries that cannot be fathomed.

At Zurich, on the recommendation of Bleuler, I was appointed third assistant physician at the Clinic of Psychiatry at Burgholzli. There I not only became acquainted with the interpretative psychiatry headed by Bleuler, but also soon got in touch with Freud himself, and became his translator. On my return from Burgholzli in the fall of 1908, I began energetically to introduce psychoanalysis to the psychiatrists of this country, from which work I have not yet rested. I wish that I had time to entertain you with an account of the trials, tribulations, and comic episodes that I had to encounter in the first few years of pioneering for psychoanalysis. In 1911, however, we founded both the New York and the American Psychoanalytic Societies, and had not only the interest but the active cooperation of such distinguished psychiatrists as Dr. Adolf Meyer, Dr. August Hoch, Dr. Smith Ely Jelliffe, Dr. William A. White, Dr. Richard Hutchings, Dr. Ross Chapman, and others well known to you all. Dr. Kirby, your President, has been sympathetic to our work throughout the years, and it was extremely gratifying to hear the tribute to psychoanalysis in his presidential address to you, yesterday. I thought then perforce of the road along which we have come, being the more mindful of it because of the baseless remarks gratuitously hurled at you in the form of an address of welcome.

I regret that I must take up once more this note of controversy, but, like Dr. Sachs, I have something on my mind which calls for disburdening. Dr. Sachs, like some others that I have listened to, insinuates that psychoanalysis is responsible for almost all the evils of mankind. He is concerned for the future of psychiatry and bestirs himself to advise you. As you are no parlor psychiatrists, you are able to evaluate Dr. Sachs' concern for you and our specialty; and you can interpret his uncertainty as to your ability to judge for yourselves the value of psychoanalysis to psychiatry. Maybe Dr. Sachs would have withheld his unsolicited advice had he read the list of applicants who petitioned you to form this Section. I say, maybe. At all events, the Section on Psychoanalysis is here, and here to stay, and I feel I am entitled to express my appreciation of the honor you have conferred on us, and my gratitude to those who have encouraged our endeavors from the very beginning, and who helped us to form this Section. I owe thanks in particular to Drs. Amsden, Chapman, Coriat, Jelliffe, Meyer, Hutchings, White, and the other signers of the application. And I must say that I feel that, despite the retreating battle against psychoanalysis which you can still witness, those of you who are unacquainted with us will find that we are not at all dangerous, but, on the contrary, fellow psychiatrists who with your President believe that psychoanalysis contributes a lot to psychiatry.

PSYCHOANALYSIS IN PSYCHIATRIC HOSPITALS.*

By ROSS McC. CHAPMAN, M. D.,
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During the past 25 years psychiatry has advanced, outside certain organic contributions, largely (1) through the study of the personality development of the adult patient—from the point of view of its etiological significance; (2) the study of the child and the adolescent and of the forces at work on *him* for the good or ill of *his* developing personality from which it has been learned that such deleterious forces are frequently modifiable, that malbehavior in children is often rather easily corrected and hope has been born that a great step forward has been taken in our approach to the actual prevention of some kinds of mental disease; (3) the study of personality development and human behavior in the light of the theories of Sigmund Freud and by means of the method or technique developed by him.

It is to this latter method of approach to our common problem, that is the study and treatment of mental disease, and its use in the mental hospital that this brief paper is addressed.

My first reaction on being asked to write on this subject was to ask why? We know that psychoanalysis is a method of study and treatment which is very valuable in certain cases of mental disease. It certainly does not need any case made out for it and as psychiatric hospitals are designed for the care and treatment of mental disease it stands to reason that this method should be used there with the many others.

Like many other therapeutic or research techniques it has been found valuable in treatment in certain cases on the one hand and stimulating or provocative of thought and effort on the other. It is not an old method in this country and it deals with dangerous stuff which is not exactly new to medicine and surgery. It has suffered at the hands of the untrained physician, and patients and

* Read at the ninetieth annual meeting of The American Psychiatric Association, Section on Psychoanalysis, New York City, May 28–June 1, 1934.

physicians have moreover been injured in its use which also, as I recall it, occurred in the early days of the X-ray.

But more than 20 years have passed since the first psychoanalytic societies came into being with the names of such men as Brill and August Hoch and George Kirby in the New York society and Ernest Jones, William A. White, Adolf Meyer, Morton Prince, Stanley Hall, Taneyhill and others as charter members of the American Psychoanalytic Association. In that time much has happened. Among other things much has been done in the study of the psychoanalytic method and much has been accomplished in the way of its better use.

If what we seek in the study of our patients are *facts* in the way of behavior under examination or physical reactions, or as to what the patient says, then the psychoanalytic method of study must be acknowledged to have been proven an additional instrument of value.

It seems to me that the tumult and the shouting are dying down, that the confusion and the wild claims which are apt to attend the discovery of something new and perhaps important are disappearing, and that we may see more clearly and evaluate more satisfactorily now than heretofore.

Certain it is that psychoanalytic theory and method is here and has been here now some years. Also it is a fact that it has influenced psychiatric thought and practice to a marked degree. There is no group, no matter how conservative its leadership, which has not felt this influence, or which has not shown it.

What the total contribution of the psychoanalytic method of study and treatment to psychiatry will be no one can say. That it will be considerable is certain. If by some means the theory and technique could be rendered utterly impotent at this moment it would have justified its existence alone through the stimulus it has given to constructive thinking about human development and behavior.

Psychiatry deals with overwhelming problems in these days—problems that the advances of the last 20 years have put upon *us*, the physicians that practice it. We are too few in number. One problem that presses is the necessity of adding to our number adequately trained men and women. Steps are being taken in that

direction. Psychiatry is going to be better taught in our medical schools. The quality of teaching will be gradually improved and as it improves, as the curricula give psychiatry its place, and as the subject is more attractively presented, more and more young graduates will seek to join us. Their final *essential* training will continue to come, after general hospital experience, when they enter the psychiatric hospital. There they will learn about the treatment of mental diseases. They will be taught the various valuable methods of psychotherapy. What of psychoanalysis?

The physician entering his first year of psychiatric hospital training finds a very different atmosphere from that to which he has been accustomed. During that year he has much to learn and adequate instruction and practical guidance must be given him. His work with patients must be kept under close scrutiny. In the course of the year he learns among other things the great importance of the detailed and authentic history in understanding and estimating his patient; he develops his approach to the patient and learns something of what to do and say and what not to say. He reads and attends clinical conferences and learns about mental hospital organization. If he is observant he acquires knowledge of the possibilities of the nurse-patient-physician relationship which is so important. He sees the value for the patient of the well ordered daily régime and learns that there are many kinds of treatment. If he is not careful he will miss or forget the fact that actual admission and residence in the hospital, with its attendant removal from the special irritations and burdens of usual life, is itself a method of treatment sufficient for a considerable number of patients to patch up a social recovery without the expenditure of much special effort, apparently, on any one's part.

He is rather apt to forget that one of the most valuable influences on the patient, no matter how detached he may seem to be, or of how little interest to the doctor, is the consciousness of the doctor's interest in *him*. The importance to most patients of the simple fact that he knows he has a friend in his physician can hardly be overestimated.

The thoughtful physician in the first year also learns much about himself for he can hardly avoid self-questioning, and if he be sensitive he may learn sometimes that which is disconcerting.

It is inevitable that he should speculate about psychoanalytic method and theory. He will probably try to analyze his own dreams and he may begin to experiment with the dreams of his patients or with free association. Such experimenting with patients should not be permitted. There are two simple rules which should be rigidly followed in every hospital in the present state of our knowledge. 1. No physician shall attempt to use the psychoanalytic method unless duly trained. 2. No physician may begin his instruction in the method until he has been at least one year and preferably two years under general psychiatric training. An exception to this rule occasionally occurs where the psychiatrist of promise, under general training, develops or discovers in himself personality problems that require special attention.

Every young psychiatrist should, on the other hand, be told what every experienced psychiatrist knows, that psychoanalytic theory and method have contributed much to psychiatric thought and effort; that it has been a stimulating and challenging influence; that the patients in mental hospitals to be studied or treated by this method are limited in number and are to be wisely selected; and that psychoanalysis while of great value in certain cases presents dangers which can only be estimated by the psychiatrist trained in its use. When opportunity presents for the young psychiatrist to learn the method after one or two years general psychiatric training he should be encouraged, or the reverse, on the basis of his character, personality and clinical aptitude.

What are the qualifications of the trained analyst? It seems obvious that for our formulation of qualifications we must go to those who have had long experience with the method.

Such qualifications have been defined by the American Psychoanalytic Association as follows: He shall be—

1. A graduate of a class A medical school.
2. He shall have served at least one year's interneship in a general hospital.
3. He shall have had at least one year's training in general psychiatry in an approved hospital.
4. He shall, himself, have experienced a training analysis at the hands of an experienced analyst.
5. He shall have analyzed four cases under guidance—one of the cases to completion.
6. He shall have duly attended lectures and seminars on the subject in accordance with the prescribed program.

In other words he must have thorough training in this method of study or treatment of the sick person before he shall be permitted to practice alone.

When one thinks of the training required for the practice of surgery in its various branches this does not seem to be particularly formidable. In any event through 20 years of experience with the method in this country and through study with its exponents abroad those best qualified to form an opinion have arrived at the above conclusions as to what is at present required in the way of training. It does not seem logical to question such conclusions.

The fact of the matter is that the proper use of the psychoanalytic technique in mental hospitals will, as things appear now, be exceedingly limited for a long time to come.

There are, first, comparatively few psychiatrists trained in the method and themselves good teachers who have the available time to give to the student. The output of trained men must, it seems to me, on this account be small for some years. Full credit must be given those groups particularly in New York, Chicago, Boston and to the Washington-Baltimore group for their unselfish and tireless efforts to give the requisite training to the young psychiatrist who seeks it. Certain hospitals are fortunately placed in this regard, it being possible to give the physician time off during the week for his own analysis and the lectures and seminars required. He receives instruction while still carrying his regular case load. After his work as a student of the method is complete it is usually the case, however, that he enters private practice for obvious reasons. The budgets of psychiatric hospitals are too small at present to permit the payment of large salaries—or at present even adequate salaries—for the experienced psychiatrist without independent means and with a family to support.

The question might properly be raised as to why a hospital fortunately having on its staff a qualified psychoanalyst, himself a good teacher, might not train its own selected men. I am inclined to think that that time may come, but not for some years yet. Such teachers are too few and too hard to keep when found.

Furthermore at this stage of the evolution of the methodology I believe that the student should be under the influence of more than one teacher and should therefore be in such a center of medical education that he may attend seminars, lectures and meetings

where he may get varying points of view. It is to the institutes existent and projected and to the unselfish efforts of the groups of psychiatrists now trained in the method that we must look for a long time to come for the education of others like themselves.

Most hospitals, too, are understaffed for the number of patients under treatment. The clinical set-up does not permit of the entrance into the hospital day or year of an educational program so exacting. The case load at the Sheppard and Enoch Pratt Hospital averages for the physician doing exclusively, or almost exclusively, clinical work, about 30 patients. That should be reduced, let us say, at least by 10, but it is a light load as compared to the situation in most hospitals. For *all* his patients something can be done—if in some instances it be no more than the maintenance in *positive* fashion of an interest in him which the patient appreciates. The hospital exists for the benefit of *all* its patients. Special time consuming psychotherapeutic procedures suffer, desirable and valuable as they are, in the face of such case loads, to say nothing of the many interruptions with which we are familiar. As to these interruptions due to visitors, admission of patients, telephone calls, etc., the proper attention to which is of the utmost importance to the hospital, it has been our experience that machinery may be set up which will reduce the interruption of the *treatment* of patients to the minimum. To reduce the number of patients carried by a physician requires additional staff—and there enters the financial problem.

I do not think we can as yet estimate the value of the psychoanalytic method to psychiatry as practiced in hospitals, but in the past 11 years I have seen enough to convince me of its importance as a means of treatment and as an instrument for clinical research. It is taken with us now as a matter of course. It would be easier to say that its complete elimination now from our therapeutic and research program would bring to us in the presence of certain patients the feeling of disquiet or dissatisfaction which would come to us if we knew we had on our wards cases of general paresis which were being left untreated or cases of brain tumor to whom the brain surgeon had not been given access for examination. We are moreover satisfied that its presence has contributed something of value to the hospital atmosphere; just how to define this is difficult.

The possibility of application of psychoanalytic theory to many of our psychotic patients seems clear enough even though the employment of the technique for study or treatment be out of the question entirely. Since in the modern clinical staff conference the subject must come up it is comforting to know that among those present there is at least one who may speak from some greater background of experience than the average staff member. It is something of value to know that we are not ignoring either theory or an avenue of approach, the value of which has been demonstrated in certain cases. At least we may feel that even with our limited personnel we are doing what we can. One wonders as careful clinical research goes forward whether we may not learn of a more direct attack on certain problems of our patients. Are we, as we learn more of our patient, making the best use of our power in the hospital to set up a helpful environment for him? These are trains of thought which are stimulating.

I think that the hospital atmosphere has grown in tolerance and understanding and that there is a broader point of view, particularly as applying to the nursing organization. Further, I believe our nurses are more observant and less prone to those emotional reactions which too often react unfavorably on some patients.

I may say further of the nursing organization here that it should and will be used more intelligently in the future than it is now; that the nurse and attendant will be used more effectively than at present from the point of view of observation and in the way of therapeutic participation.

It is hardly necessary to add before this audience that I do *not* mean that the nurse or attendant will ever use the psychoanalytic method but that as our knowledge of the motivations of behavior of our patients grows through the use of the psychoanalytic *and other* methods, their field of usefulness will be enlarged. Of this I am sure, that were it possible every hospital staff should have its well-qualified member to inject into discussion the psychoanalytic viewpoint and to wisely influence haphazard thought and speech along the lines of psychoanalytic theory.

As to clinical material in thinking of patients of choice for therapeutic effort I find myself disregarding diagnosis and concerned chiefly with estimation of history, of his personality development and its significance, his intelligence and wish to get well.

We must admit certain disadvantages therapeutically considered for most cases in hospital have developed over a considerable time and have perfected their inclination to easy relapse and method of accomplishing it. Their pull back exceeds their pull forward.

There is a basis of selection of clinical material, however, which it seems is essential. That is, first those cases for which psychoanalysis is the accepted treatment. Second, those cases in which psychoanalysis *may* be of therapeutic value and more probably of research value.

In the first group where psychoanalysis is the accepted treatment, we deal with the psychoneuroses—selected, of course. Some of them who come to hospitals require a long hospital residence on account of their own behavior or for their protection from some impossible situation in their usual environment. These it seems to me, should not be denied the treatment of choice. The others who perhaps would deplete the list considerably if they were more carefully reviewed require a comparatively short hospital residence and then should be turned over to an outside analyst for treatment.

The second group of those who *may* be benefited but whose cases offer attractive possibilities for exploration from the point of view of special studies, should be most carefully selected for obvious reasons. The dangers may be considerable. The question of whether or not to disturb the *status quo* when the patient is showing signs of patching up a recovery of sorts is a grave one. Freud himself, I believe, is far from convinced that psychoanalysis should be used in the psychoses. Our criteria are far from being worked out as yet. As an instance of what may be accomplished, however, we must point to the excellent work of Sullivan on schizophrenia during which good therapeutic results were obtained and a fine piece of clinical research was accomplished.

The advantages and disadvantages under which the employment of the psychoanalytic method in hospitals labors are not entirely clear in my mind. There are differences of opinion. The psychiatrist devoting himself to psychoanalysis must be protected, in order to work effectively, from additional case load and from administrative duties. He does have the advantage over his extra mural brother that his patient is there and he has a consequent greater freedom in arranging his day. The fact that the patient may cease to require hospitalization some time before the analytic work is

concluded can be met frequently by paroling the patient and requiring him to return for his analytic hours. To transfer him to another analyst in the midst of analysis may be difficult, though I think not if due precaution is taken. The hospital analyst also may have a greater feeling of security when confronted with emergency incident to analysis—as for instance the danger of suicide.

Incidentally, to digress, some arrangement should be worked out whereby the analyst in private practice should be able, confronted by such an emergency, to secure for his patient the benefit of hospital residence and observation without interruption of his own therapeutic efforts. It seems plain moreover that the advantage of controlling the environment of our patient or of creating a special environment may be of great importance.

Jealousy on the part of patients of the special treatment accorded other patients in hospital and retaliatory behavior creates difficulties in some instances. Also annoying often are the exchanges of confidences between patients and comparison of progress. Whether this is offset by the difficulty of the physician in private practice in dealing with patients whose days are idle or who have to deal with business difficulties or with controversial relatives, I am in doubt.

Another highly desirable reason for the use of psychoanalysis in hospitals is to offset the tendency toward isolation of those psychiatrists who devote themselves exclusively or nearly so to cases to whom this method of treatment and study is applicable. Psychoanalysis should be brought closer to the main body of psychiatric thought and effort. It is that which should make us deeply gratified at the establishment of a psychoanalytic section of this great association which makes up the largest and finest body of organized psychiatric opinion—which dispassionately watches the movements and enthusiasms of the day pass and wisely selects from each that which is good.

THE RELATIONSHIP OF PSYCHOANALYSIS TO PSYCHIATRY.*

By LELAND E. HINSIE, M.D.,
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The present status of psychoanalysis as an investigative and therapeutic procedure in the field of psychiatry may be reasonably well delineated. To estimate with some degree of accuracy what value psychoanalysis has to psychiatry, it is desirable to know as fully as possible what psychoanalysis has contributed up to the present time and what the general problems of psychiatry involve. Since the topic refers to the relationship of psychoanalysis to psychiatry, other schools of psychiatric thought are given attention only by inference. This apparent neglect of other disciplines is by no means an indication of their relative values; it simply means that they are not being discussed in this communication. The term "psychoanalysis" is used in this communication to refer to the psychoanalytic formulations of Freud and to such other concepts that have been incorporated by Freud from the works of other investigators in order to complete or supplement the findings that are peculiarly Freudian. It is recognized that other plans of approach to psychogenic problems have been described and that many of them have points of merit, but for the present they are not under consideration.

It is certainly more than of academic interest to know that during the second half of the nineteenth century the leaders of psychiatric thought were almost uniformly of the belief that the pathology of the mind was the pathology of the brain. "The first step towards a knowledge of the symptoms (of mental disorders) is their locality—to which organ do the indications of the disease belong? What organ must necessarily and invariably be diseased when there is madness? . . . . Physiological and pathological facts show us

* Read at the ninetieth annual meeting of The American Psychiatric Association, Section on Psychoanalysis, New York City, May 28–June 1, 1934.

that this organ can only be the brain; we therefore primarily, and in every case of mental disease, recognize a morbid action of that organ." The translation is from the second edition of Griesinger's "Mental Pathology and Therapeutics," published in 1865. The excerpt represented the prevailing attitude of psychiatrists as regards the general etiology of mental disturbances. However, the groundwork for psychotherapy, as we understand it today, was at the same time in the process of development; it was quite obvious that, even in the absence of demonstrable organic pathology or even in the presence of such an assumption, psychiatrists then erected a milestone of psychotherapy that pointed to the more refined pathways along which psychotherapy has proceeded. Near the close of the nineteenth century there were many investigators who were of the belief, as Bernheim said, that "the mind is not a negligible quantity. There is such a thing as psychobiology. There is also such a thing as psychotherapy. This is a powerful lever, and one which the human intelligence and medical therapeutists must turn to full account."

Progress was relatively rapid. While "moral" treatment (so thoroughly described by Griesinger) continued to be the subject of intensive investigations, "suggestion" therapy and hypnotism occupied the minds of such astute pioneers as Richet, Babinski, Charcot, Moebius, Janet and a host of others. At that time there were indications (revived, to be sure) that there was some part of the mind or psyche that was not available to the then current methods of investigations and for some time the efforts to pierce the unconscious part of the mind were assiduously carried out by many of the men mentioned. This was the period when the search for "traumatic memories" was at its height. It was hoped, for instance, by Janet, to establish a possible relationship between past, "submerged" memories and the morbid symptomatology exhibited by the patient.

Among the several research workers were Breuer and Freud, who were among the first to offer practical clinical observations on the relationship of unconscious motives to their conscious symbolic or symptomatic representations. From that time onward Freud has continued to give the most comprehensive and useful understanding of the structure and function of the psyche in both

its conscious and unconscious manifestations. It was due to the remarkable perspicacity of Freud, not to mention his unrelenting interests over all these years, that psychiatry has expanded in a relatively short space of years to a position of therapeutic value that has not been possible under any other school of psychotherapy. Before discussing the applicability of psychoanalytic knowledge to the various conditions encountered in psychiatry, it seems advisable to survey briefly the conditions themselves.

At about the time that Freud introduced the psychodynamic attitude that is known as psychoanalysis, another momentous move was taking place in the field of psychiatry; Kraepelin was putting forth his monumental works on descriptive psychiatry. While Kraepelin was identifying the several clinical syndromes, Freud was suggesting a means by which the clinical syndromes could be understood and treated from the psychic standpoint.

When a therapeutic suggestion is offered, it is the rule to apply the method to those clinical conditions that appear to be the most amenable; and it appears also in the history of important therapeutic remedies that the method is tested in a variety of clinical disorders. In this respect psychoanalysis has followed and continues to follow the path of research into the many channels that seem to offer further hope of reward. Gradually the field of psychiatry began to test the new formulations and to add to the suggestions that as a rule came from Freud himself. Research and therapy took a parallel course. Many psychiatrists carried both attitudes into their private practice and proved that, among the many psychiatric syndromes, there were several clinical types that responded favorably to the psychoanalytic approach. The public gradually became aware of this new medical instrument and took advantage of the first rational offer for the amelioration and cure of many psychiatric conditions that previously had not been understood, save from the standpoint of a description of the symptoms.

Freud grouped the psychiatric syndromes, that were conceivably benefited by the psychoanalytic approach, under the heading "transference neuroses." Due to the fact that almost all of the patients in this group were not only living in their usual environment, but were also able to maintain some semblance of adjustment to the demands of reality, although their efficiency was often

remarkably reduced, an ever-increasing number of psychiatrists moved into the environment to meet the needs of these patients. Prior to this time psychiatry was almost exclusively practiced in psychiatric hospitals, but it soon became necessary, in order to test the validity of the claims of Freud, to seek psychiatric patients who were not in hospitals. Many psychiatrists, therefore, changed their status from hospital to private practice; they soon became organized. The organizations have grown in numbers and in scientific importance, so that today there is an international group that lays down the requirements for membership and that in other ways establishes policies of a more or less uniform character for the many individual societies.

While it is true that today no sharp line is drawn as to the psychiatric reaction-types that are encountered in private practice, as contrasted with those seen in hospital practice, it is, nevertheless, the rule that in hospital practice the greatest number of patients are not on the whole as amenable to therapeutic psychoanalysis as are those who do not find hospitalization urgent or advisable. Almost from the beginning of psychoanalysis, however, psychiatrists in hospital practice have found the principles of psychoanalysis to be indispensable to the understanding of psychogenic reactions; psychiatrists have come to understand a great deal more about the psychogenic aspect of their patients and have been able to put this understanding to excellent use, not so much in a direct manner to the patient, as they have been able to do so indirectly through what may be called psychosynthesis. For the successful application of the latter (psychosynthesis) the combined efforts of the physician, nurse, occupational therapist and social worker have led to a decidedly improved therapeutic approach to the psychiatric patient.

The present status as regards the medical uses to which psychoanalysis has been put may be summed up as follows. (1) Psychoanalysis as a therapeutic agent may be expected to effect a cure in the majority of those patients identified by the term "psychoneurosis." Among the remaining members of the psychoneurotic group, amelioration of symptoms to a greater or lesser extent may often be achieved. Amenability to therapy, however, cannot be gauged with certainty on the basis of diagnosis; the more accurate

guides as to the probable effect of therapeutic psychoanalysis have to do with the mobility of the emotional qualities of the individual, that is, with the question of "transference." Many psychoneurotic patients, whose emotional qualities are strongly incorporated in physical structure and function (*i. e.*, those who are largely hypochondriacal) do not respond favorably to psychoanalytic treatment. (2) Psychoanalysis as a therapeutic adjunct, carried on in combination with psychosynthetic facilities and with such physical measures as may be indicated, may be expected to accomplish favorable results among those members of the so-called "psychotic" group whose evident symptoms are principally psychogenic and whose cooperation can be gained and maintained. In general these patients are young and their psychiatric or psychopathic experiences are not of long standing. Psychoanalysts have tentatively grouped these syndromes under the heading "narcissistic neuroses." Ordinarily among the patients of this group psychoanalysis is not practiced in a strictly formal manner, but modifications of technic are introduced to meet the individual needs of the patient. (3) A modification of psychoanalysis or some indirect approach based upon the physician's psychoanalytic understanding of the patient may alleviate a psychogenic syndrome that is associated with an organic syndrome. (4) At the present time the principles of psychoanalysis are employed as an investigative procedure among those patients whose psychiatric syndromes can be observed, but not treated, by psychoanalysis. Into this group fall the majority of patients with an advanced "narcissistic neurosis" and also those psychiatric patients in the pre-pubertal period of life. (5) There is a group of adult individuals, who, while not exhibiting any of the recognized psychiatric syndromes, possess character anomalies (character "neuroses") that are very favorably influenced by psychoanalysis.

Up to the present time the psychiatrist in hospital practice has been impressed also with the somatic issues that are at least more vivid in the general hospital population and the prevailing attitude today among psychiatrists in hospital practice combines the somatogenic with the psychogenic point of view. There are without question somatic disorders concomitant with the psychogenic features in such a large number of psychiatric patients that it is

equally as urgent, in our present state of knowledge, to study the one as carefully as the other.

These prefatory remarks serve as a general survey, that enables us to understand in outline form the principal directions and applications of psychoanalysis in the sphere of psychiatry. They represent the expediencies that have been developed by psychiatrists in the short space of time that the two great disciplines (descriptive and dynamic or interpretative psychiatry) have been tested. Out of the wealth of information that has been gained there yet remains a still greater volume of research work to be done. The division of patients into an intra-mural (intra-hospital) and an extra-mural group; the division of psychiatrists into groups that serve the needs of the one or the other group of patients is an exigency that meets the phase of progress that psychiatry encounters today, but it by no means should be regarded as more than a tentative arrangement that enables psychiatrists to be practical with those advances that are known to be practicable.

Current psychiatric physical facilities (namely, the private office, the hospital with its in-patient and out-patient departments, the space set apart in general hospitals, in special institutions, such as those for the criminal or delinquent individual, in courts) are leading to an abandonment of the expediency just mentioned. There is already adequate proof, small as it may be at present, that in hospitals that are constructed and manned by psychiatrists who are enabled to put known methods of investigation and therapy into practice, the value to the patient is great. There is little room for pessimism when the field of psychiatry is surveyed, not only in cross-section, but also in longitudinal-section. There are many well-defined advances in psychiatric technic and in the facilities with which to carry out the technic, although they are not, to be sure, as widely applied as one might wish them to be. In psychiatry, as in other disciplines, there is the so-called check-and-balance system; the psychiatrist develops and offers a technic that he considers useful and helpful; a certain part of the public acts independently to derive the benefits from the new method, while the vast majority must wait for their political representatives to make it possible for them to take advantage of the method. The representatives ordinarily do this when it is clearly demonstrated to them that the employment of the method is advantageous.

Progress in psychiatry is taking essentially the same course that progress in any scientific field takes. When the procedure that was offered, in this instance, psychoanalysis, was subjected to research and practice and found satisfactory, it was endorsed by those who were qualified to express an opinion with respect to its merits. The public, or more particularly that part of it that was able to derive the benefits of psychoanalysis through its own independent action, was quick to accept the opportunities that it offered. But there is a still larger group that must have public assistance, in part at least, before it is prepared to receive the advantages of progressive measures; it must wait for public or private endowment to create the facilities. Towards this purpose a nucleus has already been formed; there are psychiatric clinics that offer psychoanalysis to those who are not able to meet those requirements (usually financial) that are associated with treatment by the private practitioner. The steady growth of demands for psychoanalysis has made it advisable and necessary for psychiatrists to be trained to engage in the practice. A psychiatric unit is incomplete that does not include psychoanalysis in its methods of investigation and therapy.

It should be emphasized, however, that psychoanalysis, while indispensable for certain clinical disorders, is but one of the several methods of investigation and treatment that aids in the furtherance of psychiatric knowledge. It is the method that has no equal today, that contributes to the most comprehensive understanding of the structure and function of the psyche, and that lends itself most favorably to the correction of disorders in the structure and function of the psyche. According to the best information at the present time there are clinical psychiatric disturbances that appear to effect the psyche preponderantly. It seems that the mind or psyche is subject to many of the general biological principles that are known to apply to the structure and function of the soma. The psyche has a history—phylogenetic and ontogenetic, a history of experiences that determine the psychic attributes that are seen in an individual at any given age or age period. The experiences of the ancestral and of the personal past of the individual are recorded in the psyche; and they are recorded with more accuracy and faithfulness than is commonly believed. Human beings are reproduced psychically and somatically in conformity with general patterns.

Psychoanalysis in its broadest sense comprises a school of thought that contributes to the understanding of the biology of the psyche.

The soma and the psyche are complementary. The functional status of the one is often imperceptibly joined with the other. The relationship between the two is such that under given circumstances they may join their functional forces almost completely while under other conditions the one or the other may operate with relative independence. This close affiliation is biologically economical, for it permits the individual upon demand to bring both forces into unison and it also permits one of the forces (*e. g.*, the psyche) to provide substitutive activity when the other force is inadequate. This conception must be kept in mind constantly by those who treat human ailments. One of the greatest difficulties in medicine today is the frequent inability to distinguish with clarity between the functions of the soma and those of the psyche.

Impulses from the psychic sphere are constantly expressing themselves through behavior. Compulsive acts, phobias, anxieties and their many symbolic representatives are often experienced by the patient either as vicarious or direct activities of a dysfunctioning organ or set of organs. In morbid mental reactions the psyche frequently finds that the soma is a facile agent for the release of mental tensions, which if allowed expression in the environment would be punished because of their anti-social character. It is a commonplace observation of psychiatrists that, for example, the death wish of a husband against his wife may be partly "lived out" in what is commonly called "an imaginary illness"; a patient who had been inordinately attached to his mother attempted to emancipate himself from her by marrying a woman who was evidently another mother to him. Soon after marriage marked mental conflicts ensued and among his difficulties he was sexually impotent, due to the struggle against incest. The sexual organ failed to function with his wife. He first developed anxieties and ideas with respect to the inadequately functioning phallus, but subsequently the identical anxieties and ideas were transferred to the gastro-intestinal tract, whereupon he left his wife and sought what he called the nursing care that only his mother could give him. The soma was thus able to establish by disguise the contact with the mother that was forbidden either psychic or somatic expression with respect to the original impulses. The patient was brought

up "gastro-intestinally" by his mother. She too was known by her associates more as a gastro-intestinal "being" than as a personality. The gastro-intestinal tract was the "personality" that they saw in her. Over a period of years of repetition it became endowed with personal attributes. The same personification took place in the son, resulting in the easy substitution of the alleged gastro-intestinal "disease" for the phallic incapacity and its psychic constellations.

That the psyche comes to the rescue of the soma is equally as clear. So strongly convinced are physicians of this order of events that examples seem redundant. The unusually thin or heavy youngster may easily "compensate" by taking an attitude of superiority, expressed largely intellectually, emotionally or by both means. But, there are finer organic deficiencies that do not lend themselves to such an obvious correlation. Many psychiatric syndromes (*e. g.,* certain schizophrenic states) are associated with measurable (although as yet not understandable) organic disorders, which are demonstrable before the mental syndrome becomes full-fledged. Moreover, the mental symptomatology often appears to be a gross exaggeration of the former healthy functions of the now non-functioning organ. The grandiosity of the patient with general paralysis is frequently of this order. As intellectual deterioration takes place there is at first a parallel claim to intellectual superiority; in the advanced stages the claims reach far beyond those of human possibilities.

It is now well known that when one or more organic structures of the body are pathological or anomalous, there are two major compensatory adjuvants—first, other organs attempt to take on additional functions to compensate for the loss or diminution of function in the unhealthy organ; second, the psyche serves to protect the affected organ. Observations, particularly from the school of psychoanalysis, have helped to make clear the mechanism of the second adjuvant. It has been shown that the conscious part of the psyche, with its judgments that obey the laws of reality, is first called up to protect the sick organ; if the conscious part fails, then the unconscious division appears. When the latter replaces conscious judgments and reality a psychiatric difficulty of greater or lesser intensity and extensity is the result.

The psyche appears also to be able to act towards its various structuralizations with a minimum involvement of organic interference and with compensatory strivings that are largely within the psyche. In general it may be stated that there may be a loss of balance between the functions of consciousness and those of unconscious sphere. A weakening of the forces of the one or the other may find compensatory expressions arising from its opposite. In schizophrenia, for example, it is possible that there is an incapacity for the full development of identifications with reality; the incapacity leads to an inadequate development of those elements that go to make up that part of the psyche called the " conscious." The result is that the individual adapts himself in accordance with the laws of the " unconscious " and in so doing he may be aligned with the laws of his ontogenetic or phylogenetic past.

The modern school of constitutional pathology and anomaly is rapidly accumulating evidence to show not only the correlation of the different organs of the body with one another, but it is serving to bring somatobiology in correlation with psychobiology. The continuous researches that have taken place over the past 50 years in the Italian school of constitutionality have provided facts that are of great significance to medicine. DeGiovanni, Viola and Pende have amassed a wealth of information that serves to shed light upon problems in somato and psychobiology. The great value of these researches may be inferred in the briefest manner by the citation of a few laws. The ontogenetic law of Viola holds that " the ponderal (weight) evolution, or increase of mass, and the morphological evolution, or change of proportion, are in inverse proportion to one another." For a long time psychiatrists have been familiar with differences in the physical habitus of psychiatric patients and with the law of Viola as a guide a notable addition has been added to our store of information. For example, in the pyknic habitus it is believed that morphological differentiation fails to develop according to natural laws and that, as the individual attains adulthood he carries over the increase of mass at the expense of the finer morphological differentiation. In contrast with this type of unequal development is the asthenic habitus that prematurely undergoes morphological differentiation. The law of Bichat supplements that of Viola. There are two great body systems, the vegetative (for assimilation and for increase of body

mass) and the animal (concerned with the transformation of energy from the body to the environment). These two great systems are in inverse ratio of development in ontogenetic evolution; the greater the development of the vegetative system, the less the development of the animal system. In everyday psychiatric practice these laws provide an attitude that may well express itself in the therapeutic management of our patients. Godin's *law of alternations* represents a distinct advance. It embodies the idea that phases of growth in width alternate with phases of growth in length; the law of Godin applies not only to general body configuration, but also to individual segments of the body. The data upon which these and other laws of constitutional medecine depend comprise an invaluable advance in psychiatric medicine. The Italian, Austrian, German and American contributions to constitutional pathology have already shed much light upon biological problems that heretofore were less clearly understood. Likewise the great advances made in the field of psychopathology and psychoanomaly have appreciably advanced the studies that have developed in the organic field.

The soma and the psyche are complementary. The statement is repeated because of its great practical significance. Any one familiar with the problems that enter into the make-up of the field of psychiatry must recognize the concrete importance of this relationship. The many clinical syndromes that contain all kinds of psycho-somatic combinations create the necessity on the part of the physician for as full an understanding of the physical and psychical components as is possible to attain. To appreciate the necessity of such a point of view one needs only to call attention to the more or less equal rôle (as far as our knowledge extends) that psychic and somatic factors seem to play in that large group of patients diagnosed as dementia præcox or schizophrenia. In this group whatever progress is made is accomplished by an application of what knowledge is possessed from the standpoint of psychobiology and somatobiology. Many patients whose outstanding symptoms are preponderantly, in the early part of the illness, of a psychical character, soon exhibit physical changes that are equally prominent. It is a well-recognized fact that for a considerable period of time many syndromes observed by the psychiatrist first appear as disorders in the psychic sphere. Since we are

commonly not in a position to estimate cause and effect, to determine the relative importance of the psychic and somatic factors, it seems desirable to continue the investigative attitude in both fields. This point of view is certainly not in conflict with therapy. Investigation and therapy run contiguous courses.

Psychoanalysis is one of the medical procedures that has been found to be of great significance to the field of medicine in general and of psychiatry in particular. It is a discipline that originally aimed to benefit the sick and its major trends of interest have since been related to the study and treatment of those conditions that might lead to the improvement of individuals who are incapacitated. It is, first of all, a medical procedure. To meet the requirements of a well-qualified physician in special psychiatric practice, there should be, first, the fundamental training in general medical practices, such as is offered in medical colleges; second, the physician needs to possess intensive and extensive experiences in psychiatry, including both the organic and the psychic aspects. Furthermore, it appears that he cannot gain a just and judicious perspective until he is able to describe what he sees (to diagnose), to form a reasonable opinion of the origin (etiology) of the syndrome that he sees, to outline the course of action (treatment) that is indicated by the best medical authorities and to see that the course of action is competently carried out. The critical judgment, based on training and experience, that enters into the consideration of the plan that is outlined for treatment is equally as important as the knowledge and skill that is employed in carrying out the technical details of the treatment itself. There is perhaps no form of therapy in medicine that could not be done, merely as a technical detail, by a non-medical person, but it is the judgment of all the issues that precede and follow the treatment *per se* that very often determines the efficacy of the treatment. With specific reference to psychiatry it is incumbent upon physicians who practice psychiatry as a major interest to meet the requirements that lead to the development of good critical judgment. Among the many requirements that have already been indicated is psychoanalysis.

The well-qualified psychiatrist today is one who possesses, *inter alia*, a full knowledge of the principles of psychoanalysis; who knows what the indications and contraindications are when the question of treatment arises; who, acting in a research capacity

only, knows the meaning of the symptoms or signs or symbols that the patient presents to him; who knows technically how to trace the symptoms back to their original sources. The examining psychiatrist may not treat the patient, but may refer him to another physician, who is specially trained to conduct the technical phases of psychoanalysis.

Those psychiatrists who have fulfilled the (very arduous and generally difficult) requirements that are laid down by official psychoanalytic organizations are often referred to as psychoanalysts, simply as a means of conveying the information that, as a result of experience and training, it is reasonable to believe that they may carry out an approved psychoanalytic course in the treatment of the patient and his disorder.

The psychoanalytic formulations of Freud have established themselves as indispensable to the psychiatric means of treatment and research that characterize the present status of psychiatric advancement. Refinements of technic, investigation of unclear or incomplete knowledge, application of the therapeutic suggestions to selected clinical groups, are being continually studied. It may be expected that modifications of present-day psychoanalytic conceptions will take place to a greater or lesser extent.

PSYCHIATRIC TRAINING AS A PREREQUISITE TO PSYCHOANALYTIC PRACTICE.*

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Thus far in this symposium we have heard of the contributions from psychoanalysis to psychiatry. It is my privilege to point out something of the other current of exchange; something of that which psychiatry has to offer, and has given, to psychoanalysis. To cover this whole great topic in the minutes at my disposal would require very sketchy treatment, indeed, and I shall not even enumerate the points of prime importance in the relationship of general psychiatric theory and general mental hospital work to the growth of the important body of useful data that makes up current American psychoanalysis. Instead, I shall concentrate on the contribution of psychiatric training to the professional competence of the psychoanalyst, himself.

Any discussion of the importance of psychiatric experience in the training of the psychoanalyst must begin with a consideration of the factors that determine the choice of psychiatry and the subordinate choice of psychoanalysis as a life career. There are factors of a positive character operative here, and there are some negative ones. The rôle which the mental hospital may have in eliminating the influence of the negative factors that may appear in psychoanalysts without this training cannot be overestimated in its bearing on the fate of one's patients. The mental hospital is a community characterized by a strong interest in human behavior and an alertness to personality characteristics. Some of the people who come to psychiatry make this choice of a route through life in part for reasons that promise little as to the welfare of their future patients. In the well-organized mental hospital these young physicians themselves come under an intelligent, tolerant attention, a scrutiny by those skilled in observing human behavior and

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in clear thinking about the personality of the behaver, and receive constructive comments and friendly criticism that may encourage a change from the state in which they would perpetrate by neurotic mechanisms certain of their own character peculiarities upon the patients whom they treat; if in fact, these same influences do not cut short an unfortunate miscasting in the rôle of physician treating mental or personality difficulties. If the mental hospital did nothing else for the candidate for psychoanalysis but subject him to this scrutiny, appraisal, and advice, it would still be well justified as a prerequisite training for the practice of psychoanalysis.

The mental hospital validates one's choice of psychiatry and one's choice of psychoanalysis. Unfortunately, in this process there occur some events which give color to what I prefer to call the superstitions about the dangers of psychoanalysis. Textbooks and papers by psychiatrists whose acquaintance with psychoanalysis is far from adequate, and by analysts whose acquaintance with psychiatry leaves much to be desired, combine to perpetuate various beliefs to the effect that the application of psychoanalysis to the psychoses is dangerous, that it is destructive or at least detrimental to such patients. Undoubtedly, psychoses have been precipitated and beyond perchance social recoveries have been prevented by activities that might be called psychoanalysis, but which in fact are activities that have occurred because of improper utilization of the training functions of the mental hospital. Dr. Chapman has already touched on certain aspects of this problem and certain other considerations bearing on it will appear as I proceed.

If you will be tolerant, I must offer a simple statement as to the nature of the psychoanalytic process—not because psychoanalysis is so recondite to most of you, but because it will simplify my presentation if I say precisely what I mean. Psychoanalysis for the purpose of this presentation is the psychoanalysis properly derivative from the work of Sigmund Freud. It is made up of three classes of processes.

The first great class is that to which we may refer as processes of free association, of more or less freely verbalized reverie processes that appear in the psychoanalytic situation. It is easy for any one to learn the formula, "Say every little thing that comes to your mind, that you notice in your consciousness." It is even

probable that any of us might at times derive benefit from carrying out such a procedure in the presence of some good friend. By this I mean that everyone is apt to have in his reverie some manifestations of his life situation that he is ignoring or excluding from alert attention to the detriment of his successful adjustment in the situations through which he is progressing. This type of superficial expansion of one's clear awareness of self is, however, but a very small part of that which psychoanalysis has to offer to its patients.

The second great class of processes may be called interpretation. It is the participation by the psychoanalyst in the psychoanalytic situation that comes about on the basis of his skill, insight, and experience, in contradistinction to his rôle and general personal characteristics. He offers timely interpretation of obscure phenomena that are appearing in the life of the patient, including the psychoanalysis. At best, interpreting the activity, including the speech, of another person can never be perfect; and the correctness of one's interpretation of another's acts can vary from vast improbability to very high probability. In dealing with people who are fairly well able to deal with life as they find it, a good deal of misinterpretation is tolerable and approximately harmless. In dealing with people whose margin of adjustive safety is greatly reduced, whose living is precarious or has failed, however, misinterpretation—interpretations of low probability—imposes an additional burden that may have very serious consequences. Interpretation however cannot be avoided; the psychoanalyst must offer timely interpretations because otherwise the stream of reveries processes remains superficial and the reconstruction of the personality and the obliteration of maladjustive processes cannot be accomplished. In other words, psychoanalysis, primarily dependent on the free-association method of observing consciousness discovered by Freud, utilizes it therapeutically to remedy obscure aspects of the patient's living through the influencing of the associational stream by wise and timely interventions, called interpretations.

Well digested experience that has grown into insight as to one's relationship to one's past is obviously necessary if one is to offer sound and helpful interpretations to another. The third great class of processes which go to make up the psychoanalytic situation,

however, surpass in significance and in subtlety all other aspects of the interpretation of the data produced by free fantasy. Freud has referred to this third class as the transference phenomena. By transference the patient manifests interpersonal processes that open the gates of memory sealed by dissociations, reorients his experience, and facilitates the development of arrested or distorted systems of motives so that he moves forward toward the conditions of adult personality organization. The handling of the transference in psychoanalysis has been discussed since the very first paper by Freud. And still anything like a definitive statement about transference situations, transference processes, and the handling of transference, must await the completion of investigations that will take many years. I speak to you today solely because it has been my privilege to apply the psychoanalytic technique to schizophrenic patients and to others showing schizoid or detached personality organization. From this work, I have learned certain facts about transference relationships which otherwise would certainly have escaped me, and on this basis have come to insist on adequate psychiatric experience as a prerequisite to the practice of psychoanalytic therapy.

When I first submitted myself to some 75 hours of psychoanalysis, as psychoanalysis existed in the Winter of 1916-17, I developed a conviction that I understood transference processes enough to work with them. Fortunately for me, however, I came to have the work with schizophrenics. As the years pass, I have come more and more to understand the events that characterized the earlier part of my research into schizophrenic processes.

Schizophrenics differ from other types of patients in that their motivation is peculiarly integrated so that they undergo with extraordinary ease reactivations of emotional configurations that are seldom observed in other types of people—from which unpleasant experiences they come to protect themselves by "distance," indifference, and "apathy." Let me talk about them for a moment. If one is dealing with an hysteric, one anticipates in the course of a successful psychoanalysis the reappearance of some very early emotional configurations; but one begins at the level of one's fellow man in ordinary life. One talks first of more or less adult relationships, as they are manifested. And one works gradually

back to the earlier configurations in a manner that is fairly smooth, and fairly easy to follow. On the other hand, when one has at last, by the skill of one's preliminary work, actually entered into relationships of intimacy with a schizophrenic, one passes suddenly from the realm of ordinary people, from the types of relationship that one recognizes among one's fellows from school years onward, into a type of interpersonal situation that can actually be referred only to the relationships that characterize the first three years of life. Abruptly, often without warning, one finds oneself integrated by powerful motives of the type of hatred and primitive love and others for which our language is lacking in terms.

Schizophrenics are the people with whom one must never make a serious mistake. These patients have learned long before they appear for treatment that there is no one in the wide world who can be trusted to value and to love one. They have developed a certain timelessness in these negative convictions and often wait quite patiently for the physician to prove that he is not trustworthy, either. His mistake accomplishes his classification with the other ones who have failed to appreciate and to love the patient; from thenceforth there is no increase in intimacy with the patient—seldom any chance to undo the damage one has done. It is for this reason that psychoanalytic work with schizophrenic patients teaches one a great humility as to formulation and to interpretation, a great caution as to determining what may really be meaningful in the life of another, and gives one the subtle simplicity, if you will permit this locution, which is indispensable in dealing with a great section of one's fellows—all those shy and detached people the number of whom perhaps increases from generation to generation, whose achievements under favorable circumstances clearly entitle them to proper treatment.

It is extremely difficult to learn about psychoanalysis from the direct comparison of the results achieved by different psychoanalysts. Psychoneurotic patients are able to compensate for great numbers of mistakes on the part of analysts; even sometimes surviving and tolerating amazingly blind behavior on the part of the physician. I can present to you only some comments on my personal experience, somewhat confirmed by the work of the few of my colleagues with whose patients and whose personality I am

somewhat familiar. As I say, in the years after the War it seemed to me that I was acquainted with psychoanalysis. Some spectacular failures with schizophrenic women impressed upon me that I was suffering what we call a scotoma—or better a field of scotomata. In other words, I was doing things of which I had no awareness, in situations that I did not comprehend to a satisfactory degree. After more than a decade, with the experience of intensive research, I went on some 300-odd hours further of personal psychoanalysis, and a great deal that I had undergone in the years before took on new meaning. It is on the basis of this training and the experience of more than 10,000 patient-hours, hours spent with patients in psychoanalytic situations, that I have accumulated the insight and the humility which is the basis for the views I am now laying before you.

The meaning of the free associational material, the formulations that the psychoanalyst can offer to assist the patient, in the last analysis come entirely from the interpersonal relationship which the physician participates in and permits the patient to integrate with him. There is nothing else in the activity of man that approximates the complexity and subtlety of the psychoanalytic situation. No one can know all about this type of relationship as it exists today, and it is unthinkable that anyone can delineate the psychoanalytic situations that will be integrated with people in the future. Culture grows and the human personality is an expanding series. Techniques of therapy must grow in the same manner. None the less, admitting that this work is an unending quest, in which the best of us must at times prove opaque or inattentive or incapable of grasping a sufficient number of factors; one still can point out certain failures which are or should become unpardonable in psychoanalytic practice. I refer here to failures of the psychoanalyst to recognize the transference processes, the shifting emotional relationships which spring up in his work with each individual patient. Any blindness in this field produces great stresses in the personality undergoing psychoanalysis; can lead to serious disorders of behavior; and in fact to the appearance of more ominous symptoms than those preceding the attempt at psychoanalysis. Just as you, before you had acquired some of the wealth of the Greek and the Latin languages for creating terminologies, could have read medical books without much profit, so

also in psychoanalysis until one has learned the signals, the signs and the symptoms of transference manifestations, by successes and failures, by tedious trials and errors, one knows nothing of what is really psychoanalysis—something talked about a great deal, but understood only after a long apprenticeship.

The experience of the student physician in the mental hospital is indispensable to his safety as a practitioner, at least among character disorders, detached personalities, schizoid types, and the like. I do not generalize this further because of lack of experience. But going to a mental hospital and living and working there for a time is not by any manner of means the experience which I have in mind. Under extraordinary favorable circumstances, I have seen something of the development of a number of young physicians. From these data and from consideration of the deficiencies in my own education, I have come to the following conclusions: It is perfectly possible to spend a year or a lifetime on the staff of a mental hospital without having detected anything of any profound significance about interpersonal relations, about transference phenomena, or anything else peculiarly useful in preparing one for the practice of psychoanalysis. Clearly, one must be supervised in one's work with mental patients, one's activities must be directed, and the type of activity engaged in must be suited to one's expanding capacity. But before I develop this aspect of my views, let me summarize what I conceive that the mental hospital has to offer.

In the first place, the good mental hospital offers opportunities for learning interpersonal reality such as most of us encounter elsewhere only in infancy. Secondly, it leads many young physicians who are over-zealous of helping patients into what we call flippantly "transference jams," into interpersonal relationships involving a patient which are so complicated and so stressful that even though they may embarrass the patient gravely, they also—if there is any sort of competent supervision—embarrass the young physician and lead him to inquire into his deficiencies. How often these so-called transference jams have led promising young men to undergoing a personal psychoanalysis is by no means sufficiently publicized. It is certainly a very important function, even if rather expensive to the patients concerned, that the mental hospital performs in teaching these young physicians that it requires knowl-

edge to help a person in trouble. Before I proceed to my last point as to the opportunities provided by the mental hospital, let me touch upon a particularly favorable outcome of the transference jam. While it might be ideal that one be really competent before one undertakes the healing of the sick, all of you know that the nature of things prohibits such an ideal. While it might be ideal to have only highly competent psychiatrists and psychoanalysts dealing with the mentally ill, I need not stress reality in this connection. The combination of a personal psychoanalysis with one's work with patients in the mental hospital has certain singular advantages which I believe are not shared by psychoanalysis under other circumstances. There is a very real danger that any psychoanalyst will perpetuate in his analysants many or all of the limitations of his own analysis—and analyst. This is the reason that we are so insistent that psychoanalytic training shall include a good deal of work under supervision by others than the training psychoanalyst. Now, people who are suffering mental disorders have so serious a diminution of their capacity to adjust to mistakes and to tolerate conceit and limitations on the part of their therapist that they provide a unique opportunity to discover that one has been analyzed, or is being analyzed, to suit some psychoanalyst, and not in order to attain maximum integration of personality and maximum insight. In other words, psychotic and subpsychotic patients respond vividly to the psychoanalyst's scotomata, or blind spots, and demonstrate his incompetence with remarkable precision.

Finally, the mental hospital provides the young physician with an opportunity to learn something which is most vital to the welfare of his future patients. He learns what a neurotic choice of patients amounts to; and what a sound choice of patients is, for him. Young psychiatrists show interest in sundry patients, and a competent psychopathologist can in each case say why, if he has data enough; but in general it comes about that where there is very little insight, the choice of patients with whom to work is sometimes incredibly bad, foredoomed regardless of effort. The training in the mental hospital coupled with one's own psychoanalysis clarifies these neurotic drives to interest oneself in the very people one cannot work with because of an overlapping problem.

Let me take up now the content of adequate mental hospital experience. The purposes of working in the mental hospital as a preliminary to the practice of psychoanalysis amounts in a sentence to this: It is a vast augmentation of alertness. This augmentation cannot be expected to happen as a concomitant of mere existence among the mentally ill. I am convinced that methodic steps amounting to intensive supervision of the potential psychoanalyst from the very day of his entrance to the mental hospital service is urgently necessary. On the one hand, it requires a good deal of supervision to bring any young physician's ideas of what he is doing into harmony with what the patients and perhaps their relatives who come in contact with him think about it. From these two streams of data, with a great deal of help from some one who is aware of personality processes, there can be a slow growth in the objectivity of the young physician's behavior, a slow expansion of his field of conscious awareness, in contradistinction to unconscious mischief, regrettable misunderstandings, and the like. In the second place, there is an unremitting necessity for intensive criticism and clinical demonstrations. I personally favor heartily the requirement that the young physician make many written statements as to his view of this and that. Suave, quick minded people often conceal in their spoken comments serious misapprehensions that they entertain. Once their views are recorded, deficiencies in their formulations are readily pointed out. Intensive criticism of all clinical histories, notes of interviews, reports of events concerning patients; coupled with some clinical demonstrations of how things really are done and of what has significance in the relationship of a competent psychiatrist and his patient; would vastly abbreviate the staggering amount of time it takes the average interne to find a clue to the nature of psychiatric therapy. I have said often that it takes 18 months residence in a good mental hospital to provide the average psychiatric interne with some notion of what psychiatry and psychiatric patients are. This would not be the case were the supervision adequate. Moreover, adequate supervision would remedy immediately one grave development that now involves many young physicians who enter the psychiatric field. I refer here to the damnable business of learning how to "get away with it" without really knowing what is going on, or caring—no

asset to any psychiatrist or psychoanalyst. Supervision cannot begin too soon in the mental hospital. Without it, only the most exceptional person secures reasonable returns on the time and effort he spends.

With excellent supervision, on the other hand, so great is the teaching value of intensive therapeutic work with psychotic patients either in periods of remission or (when one has become competent) during active aggravation, that this should be required in the education of every psychoanalyst who by accident or design is to deal with detached and schizoid patients, character disorders, and similar serious problems.

DISCUSSION OF PAPERS BY DRS. BRILL, CHAPMAN, HINSIE AND SULLIVAN.

DR. BERNARD GLUECK (New York, N. Y.).—Mr. Chairman, I am sure one thing is clear from listening to these papers this morning, namely, that we do not require caution from outsiders; that those of us who are actually concerned with this difficult task of psychoanalytic practice are quite fully aware of its difficulties, of its dangers and of the exceptionally hard demands that this work makes upon those who practice it.

I shall not enter into a discussion of the technical phases of the papers that have been presented here. Two years ago, before this same organization, I attempted a brief statement of my experiences in dealing with the more malignant types of mental disorder under the protection and facilities of a small private hospital. I have not changed my views very radically since then, and I can still reiterate my belief, that more so than is the case in any other form of therapy, the results of psychoanalytic therapy depend upon the equipment and experience of the practitioner and the degree of freedom from the various pre-occupations which attend conventional psychiatric practice.

I think the difficulties in the practice of analysis which have led to a lot of the criticism, sometimes justified, sometimes altogether unjustified, have been due largely to the fact that every conscientious analyst is continually overburdened with too many demands on his time and his energies.

The time has surely passed when any openminded physician might question the wisdom of providing adequate facilities in every well-conducted mental hospital for the application of psychoanalytic therapy to those patients who can benefit from it. I think that most hospitals, if they had the opportunity, would gladly introduce this form of therapy, and those few hospitals which have been pioneers in this move deserve a great deal of credit. But I want to add a word to what Dr. Sullivan said about the great importance of the first year, of the first 18 months of supervised guidance of the young interne in a mental hospital.

I remember that my own first contact with a mental hospital was not as favorable a one as I might have wished it to be. It so happened that, when I joined the staff of St. Elizabeths in 1909 we were terribly understaffed and were particularly pestered by an ambitious and not too honest lawyer in Washington whose ambition it was to take everybody out on a habeas corpus proceeding, and the entire staff was busy for months in dealing with this external evil. But as I look back on this experience, I realize that had it not been for the personal efforts of Dr. White himself, his continuous awareness of the necessity of being in touch with the young men who came into the hospital, I would have missed a great deal during those first years. I believe any hospital that offers the opportunity for a young man to come in and become acquainted with the field of psychiatry has as its greatest obligation

this very thing that Dr. Sullivan has stressed, to furnish the young man the opportunities to really get into intelligent touch with what is going on. I don't think we need stress the fact that every analyst should have this type of experience before he does analysis. I think it is very important to see how sick a mental patient can really be in order to be entirely prepared and at home with those accidental manifestations which even mild patients occasionally exhibit during an analysis.

I am, of course, sharing the satisfaction and the pride of Dr. Brill in celebrating this day when the psychoanalytic movement has become an integral part of this great organization, through the establishment of a psychoanalytic section.

As one who has always displayed a great but objective interest in analysis, I can think first of Dr. Hutchings. From the very beginning of my work, Dr. Hutchings showed a great interest in what we were doing and in talking about the relations of psychoanalysis to psychiatry. I would be very pleased if Dr. Hutchings would make a few remarks.

Dr. Richard H. Hutchings (Utica, N. Y.).—Mr. Chairman, I very well remember my first acquaintance with the formulations of psychoanalysis. It was when I received from Dr. Brill in 1909 a reprint of a paper which he had published, in which the patient he described had many symptoms of serious hysterical disorder with evidence of beginning mental derangement. In treating this patient he had been able to give her insight into the nature of her conflicts so that it resulted, happily, in restoration to mental insight and soundness.

I was so much impressed by that report that I immediately sought every available piece of writing on the subject and became convinced that our hospitals would make better progress in the understanding of our patients and their conflicts if the principles of psychoanalysis could be applied to psychiatry. Since 1909, that conviction has grown steadily with me. I have not been able to make progress in its employment consistent with its value, but so far as I have been able, I have encouraged its study and the application of its principles to understanding the inner lives of our patients, with satisfaction to myself and to the members of my staff, and I believe with benefit to many of our patients.

Dr. Earl D. Bond (Philadelphia, Pa.).—Mr. Chairman, if Dr. Brill has come to Dr. Kirby for advice at critical occasions, I have come to Dr. Brill.

In speaking on this subject, I have to associate myself chiefly with Dr. Chapman, whose experience has come very close to mine. During the year I have been tremendously helped by a little book called, "Conflicts of Principles," by President Lowell of Harvard. It has given me a great deal of confidence to find that there is good support for not being forced to believe that truth is either at the South or the North Pole, that truth is not either in freedom or in discipline, that truth does not have to be either in psychoanalysis or in chemistry. I think that in a hospital this point of view is valuable and that it does not lead, as one might think it did, to a weak sort

of compromise. It seems to me a practical thing in a hospital to use psychoanalysis whole-heartedly on certain occasions, at certain times, on certain patients, and to use chemistry whole-heartedly at other times and on other occasions and on other patients.

If this kind of hundred per cent work is done knowledge advances, knowledge is accumulated in the hospital, and physicians can turn to any kind of therapy that will help the patient temporarily or permanently.

DR. KARL A. MENNINGER (Topeka, Kans.).—Mr. Chairman, I am glad to represent the West in this symposium, which has been justly represented largely by our Eastern colleagues, because they were the pioneers in the field, and the extraordinarily fine examples of Dr. Chapman and Dr. Bond and Dr. Glueck and others we are now attempting to emulate in a modest way in Kansas.

We (if I may be pardoned this much personal reference to justify the subsequent remarks) have two full-time qualified analysts working in a private psychiatric hospital and we entirely concur with what the experience of Dr. Chapman and Dr. Bond has been, as expressed here. I might add these details: First, we have been particularly interested in the advantages which psychoanalysis in a private hospital offers for research in the application of analysis to the borderline cases, to mild psychoses and to other as yet unsettled and problematic clinical problems. We find also that there is a distinct advantage in the care of patients in a mental hospital in that the psychoanalyst in charge of cases may confer with the recreational director and the occupational director and the hydrotherapy director, and so forth, in the carrying out of their work. We feel that the occupational opportunities, for example, give outlet to the constructive tendencies of the patients, and the recreational activities—athletics and so forth—to the destructive tendencies, and, as we all know, these vary not only in their direction but also in their peculiar form in various individuals. We have found that conferences of the analysts with these department heads is of a great practical advantage.

I was very much impressed by Dr. Chapman's measured and thoughtful and conservative statement of the matter and his very interesting paper, to which I would like to add also the category of those patients, particularly adolescents, whose strong instinctive tendencies have gotten out of leash and who do not do well under analysis outside of an institution because they get into too much trouble, both male and female adolescents.

We have also found analysis in the institution desirable for those patients whose extreme acting out, as we speak of it in psychoanalysis, militates against an unsupervised life. They do not bring their memories very easily into verbalization but have a tendency to act out constantly in their life behavior which is inimical to themselves and their environment, and such patients can often be controlled to a moderate degree in an institution and thereby afforded opportunities of treatment which outside are dissipated.

Finally, we also think that, as Dr. Chapman said, the patients with a depression, who offer too serious a risk outside of institutions can be analyzed in somewhat more safety and more wisely inside.

I could also speak retrospectively if there were time. I remember our meeting 15 years ago when my former chief, Dr. Southard, reviewed the past 75 years and looked ahead 25. I don't think he anticipated this development which Dr. Brill and Dr. Jelliffe and Dr. White and others have bravely led us forward into, but I know we are all grateful to these leaders of ours and that Dr. Southard would be, too, were he here.

Dr. William L. Russell (White Plains, N. Y.).—I am a little sorry that Dr. Brill has called upon me, because I am still in the stage that perhaps may make my remarks less acceptable than those of some of the others. I am still in the stage of what is called in the vernacular, watchful waiting. This is perhaps because I have been so situated that most of my task has been observing rather than participating. I am very glad indeed to see this movement for the integration of psychiatry and psychoanalysis in our actual set-up and organization. I think it will be good for psychiatry because psychoanalysis has already been very beneficial to psychiatry, and I think even more perhaps it will be good for psychoanalysis.

This leads me to say one or two things that may seem somewhat discordant with the harmony that has thus far prevailed. One is that I believe that in our organized work, we have to be careful that we hold fast to what has proved itself worthy and not be too ardent in going over to the new. This applies, of course, mostly to the young, and I believe that we older persons ought to be cautious in regard to this. I draw my conclusions from observations in seeing the young physician develop in the hospitals, and I really think it is somewhat dangerous for them to too soon, and they do begin right away because of their contacts, to try to find their interpretations of the symptoms of the patients, of their problems, in psychoanalytic formulations. I think there are interpretations that are to be derived from psychoanalytic formulations and understanding and interpretations, but I think we have a great deal in psychiatry outside of that that is really, I think I will say, more important at the present day in institutional practice. I do see that tendency already, and I think that is a little dangerous.

Now we must remember that psychotherapy is as old as anything in the past that approached psychiatry. Pinel's great contribution to psychiatry was that he directed attention to the management of the mind, as he called it. Psychiatry of his day was really, as far as the physicians were concerned, nothing but internal medicine of a most drastic character, and he learned from his observation of the management of the institution by lay people, but experienced people (the governor of the hospital a layman and his staff of laymen that he had trained) that they were doing more for the patients than he was able to do by medicine. Now management of the mind has been a feature of institutional treatment from that date to this.

At that time, there was the same ardent enthusiasm about it. Bloomingdale Hospital was established to institute "moral treatment" and it was at first very disappointing. The governors of the hospital were very ardent about it and thought they were going to accomplish wonders, but in a few years they recognized that it was disappointing, that moral treatment hadn't

accomplished what they thought it would. The reason was, of course, that they expected too much.

I think we are in that stage now in psychoanalysis in psychiatry, that we shouldn't expect too much. I have to say frankly that I feel we have to be cautious as to results anyway, because it is not easy to evaluate treatment in terms of results. We know that, and that the situation is complicated. I have yet to see any very striking results in exclusive psychoanalytic treatment in the class of cases I have contact with. I have seen results, but we have seen similar results from other methods of treatment. I think we ought to be pretty modest about that sort of thing.

So I hope you will excuse me for introducing what perhaps seems a little discordant, but I do believe that those two things are to be thought of pretty cautiously. I also think that some of the extreme views in psychoanalytic treatment are destructive to sound institutional methods, namely the attitude of some psychoanalysts in regard to the physical condition and needs of the patients, physical treatment, physical examination, and in regard to the directing of the patients, rather than giving them a great deal of freedom. I presume that is probably the application of psychoanalytic understanding and technic by the new person in the field. But these are things that I have observed and as I was invited, it seemed necessary to state them frankly.

DR. FRANZ ALEXANDER (Chicago, Ill.).—*Mr. President, Ladies and Gentlemen:* I will take here a position which I am afraid is not very popular just at this moment, because I have to agree in many points with Dr. Russell's remarks; that is only on certain points. In another point, I think a disagreement will be clear if we clarify the main issue of our discussion.

I speak here also because my history, in the relation of psychiatry and psychoanalysis is one that the other speakers haven't had in their past, I believe. I was working as a research physician in a psychiatric hospital before I learned of psychoanalysis and during this period of my working in the hospital, I learned about psychoanalysis, at first with great hesitation and doubt and then more and more with enthusiasm. I must tell you my feeling was this: If I compared the period before I knew about psychoanalysis with the period which followed after I knew a little (and I emphasize "little") about psychoanalysis, it is like the experience a traveler has in traveling in a country, the language of which he doesn't understand at first, but afterwards he begins to learn the language and begins to understand the behavior of these peculiar people, this foreign race in a mode more detailed and more precise, because he understands their word symbols.

The psychotic also has certain symbols for expressing himself which is somewhat different from the expression of neurotics and normals, and if we learn these symbols, then we understand what the psychotic tries to express with them. To the understanding of these symbols, psychoanalysis contributes much. But that is only, I should say, a subjective confession. The objective situation is that psychoanalysis, the technic of psychoanalysis, was really worked out on psychoneurotics, personality disturbances and perversions, but not on cases of psychosis.

I think that it is of great disadvantage if a technic which is worked out on certain material, *i. e.*, on neurotics—and here I must agree fully with Dr. Russell's remarks—is transferred uncritically or without the necessary modifications, possibly very important modifications, to a new kind of material, that is, in this case to the psychotic. The technique must be necessarily changed. So that I can summarize my point of view, to which I came after long struggle with this problem, that psychoanalysis as a theory of the human personality and psychological processes contributes much to the understanding of psychotic patients. But psychoanalysis as a technic of treatment has not yet proven its efficiency in the cases of psychosis. That is the attitude of the founder of psychoanalysis, Sigmund Freud, in his very latest book, in which he again emphasizes his great skepticism that psychoanalysis as it is today can be successfully applied to psychotics. He thinks that the dynamic quantities involved in psychoses are quite different from those involved in neuroses and, therefore, the weapon against these quantities must be a different weapon. It must carry farther, perhaps it will be combined with certain somatic approach; and I think we do only justice to psychoanalysis if we emphasize that psychoanalysis is not only a therapy, but mainly it is a theory and a method of investigation. So far as it is a theory of personality it can be applied for the understanding of all kinds of human manifestations, psychoneurotics, criminals, psychotics, artists, statesmen or anybody else. Its application to psychotics as a method of investigation and undertaking is one of its many applications. The therapeutic technic itself must be worked out in its details according to the specific nature of the patient, of the group of patients we call psychotics. That is yet not done, although very important steps have been made by different psychoanalysts, among them Dr. Brill. And I think his attitude that the technic must and should be changed for the treatment of psychotics is the only one which corresponds to the logic of the situation.

There is a definite difference between psychotic and neurotic; I don't know, maybe it is only a quantitative difference, but this quantity requires certain changes in our approach.

So I conclude my remarks by saying that I approve, and I agree entirely with Dr. Russell's skepticism. As a matter of fact I didn't understand it exactly as skepticism. I should say his attitude is a caution regarding the application of psychoanalysis as therapy to psychotics. But, making this admission, I should like to emphasize that the use of psychoanalysis, psychoanalytic concepts for the *understanding* of the psychotic processes has no limitation whatsoever.

Dr. Bernard Sachs (New York, N. Y.).—*Mr. President, Ladies and Gentlemen:* Thank you for this opportunity. I am only sorry I didn't have occasion to hear the Chairman's amiable remark about me before I entered the room. I have no reason to answer that.

There is absolutely nothing personal in my relation to this discussion. I told one of the young psychoanalysts the other day: I admire many of you individually, but what I think of you as a group, well, I had better not say it now.

I hesitated about coming here at all today; but I received a telegram this morning, which I am in duty bound to bring to the notice of this audience, especially because it was evoked in large part by the summary of what the Chairman announced he was going to say. This telegram which reached me this morning is this:

"It is possible I may be accused of having introduced psychoanalysis into this country. If I did, I apologize.

"FREDERICK PETERSON."

There is one reason why I should mention this and that is because I don't wish the impression to get around that I am at all standing alone in this matter. There are a number of us in this city and in this country who stand together just in this: We agree that psychoanalysis has much to recommend it, that it has contributed a great deal, that it has supplied us with a new and a very valuable method of approach, but the one point on which we are all agreed is that it is not the only method of approach.

You know the line, "She doth protest too much." If you will not give a Freudian interpretation to the use of "she," I should say she claims too much—I mean psychoanalysis. It was said that there is no need of an outsider giving the psychoanalysts any caution. The "caution" was to the psychiatrists and among them I am not an "outsider." I am a psychiatrist, and I would like you to know, if you will pardon one personal remark, perhaps, that I went into medicine because of my love for psychiatry, and so far as I am consciously aware, that devotion to psychiatry has not been diminished. My love for psychiatry was developed while I was a student of William James. I think you will all acknowledge that was not a bad preparation for normal or abnormal psychology. Later on I came under the influence of Charcot and Hughlings Jackson, and what I learned from them I think didn't seriously interfere with a rational conception of psychiatry.

I hail with delight and with a great deal of satisfaction as a member of 40 years' standing in this association, that the psychoanalysts have formed a section and have become, as I think you said, integrated with The American Psychiatric Association. This will bring about the one thing that I personally, and many of my friends, have been contending for. I am happy to be in the group with Dr. Kirby, Dr. Meyer, Dr. Peterson and a number of others.

The integration of this section with the Association will bring before this forum a frank discussion of psychoanalytic doctrine, which will have to submit to the same sort of judgment, the same sort of criticism that every other form of medical science has to submit to if it wants to be adopted into the general body of medical science. If I have advanced this one aim, I do not think that I have spoken in vain.

Heretofore, whenever any one of us has risen in protest—and, by the way, I haven't heard much about some of the very fundamental questions, I haven't heard anything about the ego or the id, or the superego, or many other of those things, not one word has been said about them, nor have I heard anything about infantile sexuality this morning. Those are things, I

am sure, Mr. Chairman, we will have occasion to have some detailed discussion on later, or if not before this Association, before some of our New York and Eastern societies.

So long as we are going to have in this Association a free forum for the appreciation and evaluation of psychoanalytic doctrine, I say, well and good: The fact that this whole question has been brought into the open is going to be fruitful of good results, above all, for the development of American psychiatry.

I do not want—pardon me for putting it in that very positive way, but I do not wish, at any rate, American psychiatry to be completely identified with psychoanalysis. Nor is the future of psychiatry to be limited to the development of psychoanalysis. There are many other important avenues of investigation that we must not and cannot, and, I hope, will not overlook.

Dr. Smith Ely Jelliffe (New York, N. Y.).—*Mr. Chairman, Ladies and Gentlemen and Members of the American Psychoanalytic and American Psychiatric Association:* I do not remember my Barrack Room Ballads very well, but I believe therein Kipling wrote of one Tomlinson. This Tomlinson, according to the story, made application to get into hell and the devil, interrogating him, inquired how he was going to qualify. What was the nature of the sins that he had committed? Tomlinson, thinking over his record, mentioned one after another, and the devil, ever acute, said, "But you have been reading that sin out of a book."

"Oh, yes," said Tomlinson, "I read it out of a book, that sin and other sins, and all the rest of the sins."

"But was there not one little original sin that you yourself have ever committed?" was the problem.

Poor Tomlinson couldn't think, according to my recollection, of a single little original sin he himself had committed. He had read all his sins from a book.

Now opposites are the same in the unconscious. So whether it is hell or whether it is heaven, one would like to ask how can one get into, as it were, the psychoanalytic heaven. Certainly not by reading it out of a book. That, to my mind, was one of the great additions made to the study of psychological sciences, namely, that you have to go to something else than books. Bacon, you remember, reminded us that the naming of things was the first distemper or disease of the human mind, and so reading things in a book, being too subservient, as it were, to verbosities, to words, was one of the cardinal sins.

What has always interested me in psychoanalysis, has been that for the first time there was introduced into the study of the human psyche a way of understanding human behavior which had close relationships to the methods of science. If science, in general, may be defined as a study of energetic processes, of dynamics, my measurement, by counting, by estimating, varying, weighing, proportioning, and so forth, then for the first time there was introduced into the psychological sciences something of the nature of weighing and understanding dynamic processes.

In other words, in the introduction of a new method, a new tool, a new microscope, if you will, microdissection of human behavioristic reactions in terms of dynamic processes became possible. In this sense, psychoanalysis is of great assistance in psychological science in allying this field with that of science in general.

I think this is all that I care to say, except just a few words about something that has been said here this morning. I have great sympathy with the point of view that would place psychiatric knowledge in the foreground as of preëminent service for the psychoanalyst. The human machine, since the days of de la Metrie and of Descartes, has been compared to a machine. It has analogies to an internal combustion engine. It may be looked at as internal combustion engine that has been in manufacture and in evolution for a billion years. The processes of evolution have slowed down of recent years so that practically only three new models are generated in a century. But the number of new models that have been perfecting themselves in the evolutionary process is countless and, finally, man slid off of Nature's endless belt, a subtle, complicated, infinitely complex series of dynamic processes going on within his body. Philosophically, I am not interested in any subdivision of body and mind: they are the same. I am not interested in the antithesis functional and organic; they are the same. The human body is operating; it is operating as a unified system. Certain types of behavior of the human body, as it operates as a system, interest the members of this Association more particularly. They are interested in those types of behaviorist reactions more particularly because they are sociologically important. The individuals have to be taken care of, they are not ecologically adapted. There is some failure in the relationship between the behavior and that which society as a whole desires as behavior. Therefore, they have to be taken care of in a special way and from the standpoint of what I have mentioned before, because of the intense dynamic relationships that exist in their behavior.

It is desirable to try to appreciate the value of psychiatric insight for psychoanalysis. I think it is very important. No man can hope to understand the complex dynamics of the machinery in an ocean liner by studying pin wheels. The study of pin wheels, dynamically speaking, is interesting all right, but you have to get to the complex, subtle machinery and understand it in order to understand the most obvious and simplest of things, not the other way around. And so in so far as psychiatry represents, in the main, an opportunity for an understanding of the most complex and the most dynamic of human behavioristic manifestations, it therefore is specially adapted to an interpretation by the new methodology of psychoanalysis.

THE CASE OF JOHN RUSKIN.

A Study in Cyclothymia.

By LOUIS J. BRAGMAN, M. D., Syracuse, N. Y.

Men are made what they finally become only by the external accidents which are in harmony with their inner nature.[1]

I.

The tragedy of John Ruskin consisted in the "maternal installation"[2] of his mind, as he himself phrased it. More correctly, it was *parental installation* that produced this classic example of the psychological sin of over-protection. For never perhaps in the life-history of a great man has the influence, for weal and for woe, of both father and mother been such a dominating, such an overwhelming force.

His parents had hoped to dedicate him to the church. It was *his* ambition to become the first geologist of his time in Europe. Instead, he rose to the position of "one of the most suggestive thinkers, the most beautiful writers, and the most vivid personalities of the last generation."[3] On the one hand, he was the greatest of English prose-poets, an economist, a sociologist, a moralizer, an art critic, a draughtsman, a lover of music and natural sciences; on the other hand, he remained throughout his entire life, in all respects except intellectually, a child. On the one hand, "a great man in the sense that he was a good man whose goodness was on a scale to be of use to a great many people . . . . , [and] a genius because, at his best, he displayed a great imaginative grasp of first principles"; [4] on the other, he remained a neurotic adolescent, too weak to escape parental authority, with a narcissism which was never outgrown.

It is possible to trace, step by step, the influence of his early training on his creative output, his style, his content of thought, his ideals and theories and philosophies and changing religious creeds. It is possible thus to explain his deplorable social and emotional handicaps, and his enduring, ever-recurring psychosis. It

is possible thus to explain how throughout the whole of his working life he displayed the alternations of elation and depression characteristic of a manic-depressive psychosis.[5] In effect it is possible in this fashion to explain his success in the eyes of posterity—and his failure in the art of living.

2.

I was different . . . . from other children even of my own type.[2]

The father of John Ruskin was a successful wine-merchant, a man of good taste and virtue and serious culture, who travelled frequently for his health and for business. He was 33, and his first cousin 37, when they married, and John, their only child, was born within a year, in 1819.

An Evangelical Puritan of the strictest sort, his mother was directly guilty of creating what he called the "monastic poverty" of his childhood. An unbending, grim, prim disciplinarian, she reared him sternly, harshly, fiercely, without being capable of understanding him, or even trying to comprehend his ways. As a mere infant he was punished routinely for purpose of instruction; and through the frequent sound whippings he received on general principles his sympathy for her was completely alienated.

"I wonder," he wrote,[2] "what sort of creature I should have turned out, if instead of the distracting and useless pain, I had the joy of approved love, and the untellable, incalculable motive of sympathy and praise."

For his childhood was ascetic to an extreme degree, with reiterated self-denials and stringent violations of personal liberty. His nursery hours were void of toys and joys, with none of the delights of companionship, or the adequate motor outlet for the normal exuberance of boyhood. He wore the clothing of a girl until after the age of three, and in fact throughout his lifetime he manifested a lack of masculinity, revealing a distinct feminine touch in his nature.

His parents believed that he had unusual talents by the time he was seven or eight, and consequently they were very meticulous of his education. He was given no regular school training, remaining at home, suffering constant minor illnesses, living an austere, though comfortable, and self-centered life. Because of his supposed tendency towards delicacy, his parents were doubly over-solicitous of

his welfare. Sheltered to an extraordinary degree, he was nursed, swaddled, isolated from the buffets of society and "forced by parental authority to regard himself as a sublime genius destined to inform, reform, and direct the world." [6]

His mother was rigid in teaching religious matters, her creed being a narrow and unquestioning obedience which he accepted, though painfully. But by the time he reached seven, he was so much alone that he was already independent intellectually of his parents. He learned the pleasures of isolation, the solace of simple things. In his cloistered, protected virtue, with his every thought and action prescribed in advance, he became contented and conceited, feeling he occupied the center of the universe.

His mind, through the necessity of drawing on its own resources, developed remarkable powers of application, but became greatly over-stimulated. He was taught to draw and encouraged to write, and he produced many poems, diary notes, and compilations. He found much pleasure in nature and acquired an enthusiastic love of scenery.

His mother was his sole tutor to the age of ten, and even later she attended him during his short Oxford career, keeping constant watch and ward over him. He lived with his parents almost continuously until they died, his father at 79, his mother at 90.

At 23 he gave up the idea of being a bishop or entering his father's business, and wrote one of the great books of the century: *Modern Painters: I.* When he was 34 he wanted to become a lecturer, but his mother objected, saying: "I cannot reconcile myself to the thought of you bringing yourself personally before the world till you are somewhat older and stronger." [6] At 40 his chief interest was art, and his creed was English Protestantism. After that he devoted his main efforts towards ethics and social reforms, and found it difficult to reconcile current beliefs with the facts of life. At 46 he was drifting aimlessly, with private sorrows in his heart over the unintelligible riddle of the world.

Outwardly he was truly the tenderest, the most dutiful of sons, serving his mother unceasingly and submissively, especially after the death of his father. Harsh, censorious, and in full vigor of mind to the end, she ruled and loved "like an old fierce lioness."

Thus he was home-bred and home-reared until past middle life; and to the last his parents devoted their whole existence to the single object of making the utmost of him.

3.

I have no friendships and no loves.[7]

As a consequence of his rigid, isolated upbringing, he had nothing to love and nothing to endure. At seven he knew perfectly peace, obedience, and faith; yet, as he says, he no more loved his parents than the sun and the moon, for they were just part of the order of the universe.[2] His preternatural training and activity of observation and intelligence had drained his emotions.

At 42, already one of the great writers of the age, he was under domestic censorship, and began to feel a growing sense of estrangement from his parents; for the soaring of his intellectual outlook took him far beyond their ken, and turned their insistent interest into deadweight. At 43 he wrote to his father: "The one *only* thing you can do for me is to let me follow out my work in my own way and peace." To a friend he confided:[8]

I know that my father is ill, but I cannot stay at home just now, or should fall indubitably ill myself also, which would make him worse. He has more pleasure if I am able to write him a letter than generally when I am there, for we disagree about all the Universe, and it vexes him, and much more than vexes me. If he loved me less and believed in me more, we should get on; but his whole life is bound up in me, and yet he thinks me a fool—that is to say, he is mightily pleased if I write anything that has big words and no sense in it, and would give half his fortune to make me a Member of Parliament if he thought I would talk, provided only that talk hurt nobody and was in all the papers. This form of affection galls me like hot iron, and I am in a subdued fury whenever I am at home, which dries all the marrow out of every bone in me.

Again, he said to his father, who nonetheless had "a subdued consciousness of being a profane and rebellious character compared to my mother," and who was dimly aware of suppressing him:[3]

Men ought to be severely disciplined and exercised in the sternest way in daily life—they should learn to lie on stone beds and eat black soup, but they should never have their hearts broken. The two terrific mistakes which mama and you involuntarily fell into were the exact reverse of this *in both* ways—you fed me effeminately and luxuriously to that extent that I actually could not travel in rough countries without taking a cook with me!—but you thwarted me in all the earnest fire of passion and life.

The loss of his father, he said, "who would have sacrificed his life for his son, and yet forced his son to sacrifice his life for him, and sacrifice it in vain," deprived him of a friend, a counsellor,

and a manager, yet also removed some of the restraints and trammels from him. Of his mother he said: "I don't think women were in general meant to reason. I never knew but one rational woman in my life, and that is my mother." When she died he wrote: [3]

> The father's loss, however loved he may have been, yet can be in a great part replaced by friendship with old and noble friends. The mother's is a desolation which I could not have conceived, till I felt it. When I lost my mistress [*sic*], the girl for whom I wrote *Sesame and Lilies*, I had no more—nor have ever had since—any joy in exertion; but the loss of my mother took from me the power of Rest.

Præterita,[2] his unfinished autobiography, and *Fors Clavigera*,[9] in part avowedly a book of personal confessions, detail the advantages and drawbacks of his strangely rigid childhood. *Fors*, says Norton,[10] was "a dangerous mode of relief from his overburdened spirit." It was his Hamlet, containing his latter-day morbid wanderings and outpourings. "You see," he said, "in 'Fors' how all my thoughts are bent on certain spiritual problems, only to be approached in, I don't say monastic, but at all events secluded life." Harrison [11] says that "modern literature contains no outbursts of poignant suffering, no revelations of self-tormenting reveries that can exceed those wrung from Ruskin in these dark hours." *The Mystery of Life and Its Arts* also contains some of the secrets of his hopes and despairs.

One finds in these writings repeated statements of his unhappiness and loneliness, because of which he yearned to break away from his parents. But his efforts were feeble, futile, and vague, despite his realization of the falseness of his position, and the hollowness of his contact with his father and his vampire mother. No child ever needed more a discipline which should develop his power of self-control; no child was ever more trained to depend upon external authority. His judgment was completely undeveloped: "the bridle and blinkers were never taken off." [2]

4.

Everything in life had conspired to spoil him.[10]

"It has been suggested," says Williams-Ellis,[8] "that because of the triple combination of his nature, upbringing, and epoch, Ruskin could do nothing but write and suffer, and that to no satisfactory

effect. . . . . By the time he had died he had failed—not only in his chosen work—but in every vital relation of life."

As an art critic he had " furious preferences and fanatical prepossessions." He naively believed that a false-hearted and impious man could not be a great imaginative writer. As a social reformer he crusaded quite impractically and quixotically against all religious, social, and philosophical orthodoxies. He had idealistic but fantastic visions of a new order. When he found that the ordinary man did not care for art, he tried to find out why such indifference, brutality, and materialism were tolerated. His schemes for reforming failed and he suffered ridicule, contempt, and neglect. His abnormal training made it inevitable that he should consider himself the evangelist of art and nature, and that it should be impossible for him to be a consistent thinker or rational reformer.

Despite his assertion that " from my youth up, I have been seeking the fame and honoring the work of others—never my own," he lived for himself, and would help others if it did not interfere with his own comforts. Norton says that he could not reconcile the conflicting traits of his own disposition; that he was often contradictory, with an unstable will and an uncertain air. He is variously characterized as bigoted, dogmatic, self-centered, self-opinionated, self-asserting, vain, arrogant, exacting, suspicious, irritable, imperious, socially inadequate, and futile. He was given to violent controversies and denunciations on all sorts of subjects with all sorts of people. He was, says Cook, like the living conscience of the modern world, feeling acutely the wrongs and wrong-doings of others. Tormented by acute sympathies and regrets, he was, says Harrison, utterly lonely and disdainful of help.

" The extreme individualism of his philosophy," writes Nelson,[12] " so radically inconsistent with its underlying implications, is but the natural psychological result of his probable inherent neural instability, his ' only-childness,' his domination by his parents, and his unnatural sex-life, all of these factors preventing the achievement of such socialized attitudes as usually develop in a normal life." The melancholy brooding over the unsurmountable evils never left him, and he withdrew into solitude and reflection. In 1862 he wrote:[11]

> The loneliness is very great . . . . I am still very unwell, and tormented between the longing for rest and lovely life and the sense of this terrific

call of human crime for resistance and of human misery for help. . . . . It seems to me as the voice of a river of blood which can but sweep me down in the midst of its black clots, helpless.

5.

. . . . dwelling on my own disappointed love.[2]

"The psychoanalyst," says Williams-Ellis,[8] "might be ready, without going further, to trace Ruskin's illness and wretchedness all through his courtship and honeymoon to the unfortunate state of his love affairs, and of his relation with his parents."

At the age of 17 he fell deeply in love with a 15-year-old girl named Adele, the daughter of his father's partner. The story of his love is told in some of his early poems, with a bitterness of memory, and a morbid strain which came from the depths of wounded passion. The two fathers were agreeable to the match, but his mother objected. Actually, though, the girl was in love with someone else, and after four years of his rather uncertain and ineffective courtship she made her own decision. Ruskin was crushed, and ill-health followed the frustration. It was necessary to remove him from Oxford, and for two years he was dragged from place to place, with morbid languor, as revealed in his letters from Rome, in the aimless search for health. Losing her nearly killed him: the disappointment was followed by mental depression which ended in pulmonary hemorrhage. He had a bad cough, his eyes hurt, and he suffered an attack of malaria. Apparently his unfortunate romance was leaving a permanent scar on his mind. They little knew, he wrote, "the dark ashes my spirit was lying in."

After his recovery, which took about 18 months, he manifested a distaste for society, which, together with his increased morbidness in the next few years, worried his parents so much that they turned to matrimony as a panacea. At 22 he wrote *The King of the Golden River* for a girl named Euphemia, a friend of the family. He had another attack of depression around the age of 26, during which he was disturbed by unsatisfied sex desires. It was perhaps because of this that his mother decided he must be married at once. He was not at all enthusiastic, but obeyed and courted and tried to persuade himself he was in love. At his mother's instigation he proposed, and suddenly and unthinkingly, at 29, he found himself married.

The details of his wedded life, which was a mistake from the start, are hidden in obscurity. In many of his otherwise startlingly confessional passages he kept almost complete silence on many phases of his six years of marriage. *Præterita* omits any record of the first year; and his wife is not mentioned in the diaries of his travels in the Alps. His parents accompanied them on the honeymoon, on which he promptly developed a chill and another lung attack. He was seriously ill for four months, with his mother in full charge as nurse. Williams-Ellis writes that "years afterwards Ruskin admitted to Mr. George Macdonald that the marriage had, as the court decided, been one in name only, and added that he would have felt it wrong and horrible that he and Effie should be more to each other until he could love her. That, he said, he could never learn to do."

He was presumed to be chaste before, during, and after his marriage, and for the rest of his life. The non-consummation of his marriage seems well-established.[13] Sex obsessions persisted during adolescence, and from just before 40 to near the end; and he was only free from these obsessions during his marriage. Seemingly paradoxical, in these particularly sexually inactive years he was nonetheless not depressed—on the contrary he was happy and well-adjusted.

He was utterly indifferent to the social usages of matrimony, disliking the society his wife preferred, and leaving her absolutely to her own devices while he pursued his researches and writings. Since love was missing in his upbringing, he could only love [3] "with the kind of love that most men reserve for mistress or child, the stately cities of the world, their churches and palaces, their facades and columns; and not only love them and grieve over their ruin and restoration alike, but to interpret their loveliness to others." Into this kind of love, a wife obviously could not enter. He was in fact wedded to art and his mission as an interpreter of beauty. This occupied the first place, his mother the second, and his wife even a questionable third.

Hardly any mention of a rupture or dispute is found in the records, but one day in 1853 she left him, brought suit for nullity which he did not defend, and promptly married Millais the painter. Of their parting Ruskin wrote: "I have had many deep sorrows but this was not one of them. . . . . The worst of it for *me* has long

been passed." After an interval of despondency, he threw off the whole business and was soon happy and *safe* once more with his parents.

These two episodes were but preludes to a third, the major and central factor in his life, an abiding love in middle age that was denied fruition. He was 40, Rosa La Touche 10, when she came to him as a pupil. Three years later he said she had "chosen to make a pet of me. . . . . A new epoch of life began for me in this wise, that my father and mother could travel with me no more, but Rose, in heart, was with me always, and all I did was for her sake." Thus she began to supplant his parents.

When she was 18 his wooing actually started, and he centered his whole devotion on her. He developed a love for her that seemed to transform itself from paternal affection to consuming passion. All the lovely fancies which were associated with his ideal of girlhood were unfolding in her, and the idyll continued until she reached womanhood. But she constantly put him off, rejecting him on the grounds of religious differences, for she was Catholic and pietistic, and he had an uncertain *personal* religion. In 1875, when she was 27, he wrote: "The woman I had hoped would have been my wife is dying." The loss of her whom he possessed in a spiritual sense only caused a strain of frustration under which his already overburdened mind gave way.

In 1858 to 1863 he showed amorous impulses suggesting the psychopathology of the climacteric, in which he sought to allay the recrudescence of his desires. From 1859 to 1864 he frequented girls' schools, staying weeks at a time. Frustrated sexually as in other fields, he found a substitute in pedophilia, of which *The Ethics of the Dust,* and *Sesame and Lilies* are sublimated examples. It is maintained that it was only *Rosie,* the child, whom he loved; when she became *Rose,* the mature woman, he actually hated her. Many passages in his writings and lectures were directed at her, to scold her or instruct her, mainly because she refused to marry him.

6.

I have the secret of extracting sadness from all things, instead of joy.[2]

"Are we to curse, or bless," writes Williams-Ellis,[8] "the pain that quickened him to such exquisite expression, and then drove

him down, till, again and again, he 'tasted Nebuchadnezzar's bitter grass,' and went through the complex and terrible ordeal of madness?"

What were the causes of this madness, which was to last some 30 years? Shaw [14] says there was a "despair which unsettled the reason of . . . . Ruskin . . . . at the spectacle of human cruelty, injustice, misery, folly, and apparently hopeless political incapacity." Various factors operated: some tendency towards physical weakness, the shaking of the foundations of his religious faith; *parental installation* of mind; a sense of isolation and futility following the loss of purpose of life; the extreme reaction to the perversity of mankind; and the inadequacies in his love-life. His interests were much too diversified and conflicting; his attitudes too over-determined. His fluctuating moods were warnings, and when the props and defenses fell, his mind collapsed.

He had suffered much from variations in mood since childhood, and was often melancholy during his early travels abroad. A mental depression followed his love-disappointment in 1840; this was his first real introduction into the realm of psychotic disturbances. From 1843 to 1845 a manic tone could be detected in his writings, and he manifested a hyperconfidence in his exceptional knowledge of the nature and intentions of God. Four years later he had a fever, with expectoration of blood, and an episode of horrible depression. From 1846 to 1853, he showed marked grandiose tendencies; also a fear of being seduced by the æsthetic appeal of the Roman Catholic ritual which led him to an abuse of Roman Catholicism.

In 1847 he again fell into a state of despondency; and in 1854 he was hopelessly in despair after the affair with Adele. In 1855 he began to fail in his ability to concentrate for a long time on any type of work. In 1856 his diary records symptoms of an impending nervous breakdown. By 1861 it seemed as though his days of health were over with the definite establishment of moods of melancholy, especially as his essays were beginning to be criticized. From 1862 to 1864 he showed depression, languor, listlessness, indigestion, a sense of failure, flashes of persecution mania, an inferiority complex, hatred of the world at large, insensibility to the feelings of others, and a blame of his parents for over-indulging him. Two years later he wrote tersely of some "tottery of mind,"

and the next year he said: "I am very languid and ill just now—and I seem of all things to dread talking; it seems to force me to use my head faster. That it should be used—I suppose I shall come out of the nervous fit some day."

In 1866 the refusal of Rosa produced a precarious state of mind, since his interest in her had kept him constantly unsettled. There were rumors of his sexual impotency which, however strongly denied, reached her ears, and constituted perhaps another reason for her refusal. In August of that year he wrote: "I've been very sulky and ill"; in November: "You can't at all think what complicated and acute worry I've been living in the last two months," and in December: "I have perpetual faceache, which quinine hardly touches, and am pulled down rather far."

He became frankly aware in 1867 of "the first warning mischief to my health," his diary indicating morbid trends, weird dreams, giddiness of the head, despondency, sleeplessness, mistiness, and floating sparks in his eyes. He alternated between hyperconfidence, with plans for a manic scheme to regenerate England socially and economically by means of his ultra-idealistic St. George's Guild; and depression. In 1868 his confidence returned; in 1869 his state of mind was characterized by conceit, grandiosity, extreme diversity of interest, hostile irritability and insensibility, and a sense of guilt when away from his mother, which he ingenuously rationalized. The beginnings of his storm-cloud obsession were evident, which, as will be seen, he was later to elaborate into a delusional system that Nature was changing her ways. In the summer of 1869 he wrote of an elaborate engineering plan to curb the Alpine torrents. He was showing extreme mobility of interest, with evidence of a gradual impending collapse of his mind, towards 1870.

An acute "stomach chill," an internal inflammation, with fever and delirium, nearly cost him his life in 1871. That year he wrote:[15]

> Really your simplicity about naughty *me* is the most comic thing I know, among all my old friends. *Me* docile to doctors! I watched them—(I had three)—to see what they knew of the matter: did what they advised me, for two days; found they were utterly ignorant of the illness & were killing me. I had inflammation of the bowels, and they gave me ice: & tried to nourish me with milk: another 12 hours & I should have been past hope. I stopped in the *middle* of a draught of iced water, burning with insatiable thirst—thought over the illness myself steadily—and ordered the doctors out of the

house. Everybody was in agony, but I *swore* and raged till they had to give in; ordered hot toast and water in quantities, and mustard poultices to the bowels. One doctor had ordered fomentations; that I perservered in, adding mustard to give outside pain. I used brandy and water as hot as I could drink it, for stimulant, kept myself up with it, washed myself out with floods of toast and water, & ate nothing & refused *all* medicines. In 24 hours I had brought the pain under, in 24 more I had healthy appetite for meat and was safe: but the agony of poor Joanna! forced to give me meat, for I ordered roast chicken instantly, when the doctors, unable to get at me, were imploring *her* to prevail on me not to kill myself as they said I should. The poor thing stood it nobly—of course—none of them could move *me*, on which I forced them to serve me cold roast beef & mustard at two o'clock in the morning!! And here I am, thank God, to all intents and purposes quite well again; but I was within an ace of the grave, and I know now something of Doctors that—well—I thought Moliere bad enough on them, but he's complimentary to what *I* shall be after this.

A year later he wrote:

I have been singularly, even for me, depressed and weak since the beginning of the year. . . . . One of the distinctest sources of this depression is my certitude that I ought now to wear spectacles; but much also depends on the sense of loss of that infinite of love my mother had for me, and the bitter pity for its extinction.

He had dreams which he remembered ever after and showed increasing mobility of interest, manic projection, beginnings of large schemes, and moods of depression. In 1871 and 1872 he was euphoric at times, and talked a good deal about his pet obsessions.

In 1873 he was feverishly engaged in work, and was troubled with insomnia, unnatural dreams, and prostration of mind and body. Then in 1874 the overmastering cloud of a breakdown began to show itself. He was depressed, had alternating moods, and returned to his early confidence in his exceptional knowledge of God. Travelling in search of health, he became ill with a fever and dreamed of being made a brother of the third order of St. Francis. In January, 1875, he wrote: "I had rather a bad time just then . . . . and was again somewhat seriously injured in health, going down to Brantwood in a state of torpor and feebleness from which I am but now slowly recovering." That year the death of Rosa had an effect on him, as he said, which was "very paralyzing" to his health. Continually absorbed in her memory, he attended spiritualistic seances and believed he saw her spirit there.

In 1876 he was hypochondriacal, and endured a "quite terrible languor." There was marked and rapid increase of mobility of interest and of all his obsessions. Then a psychotic episode occurred in which Rosa appeared identified as St. Ursula, in Carpaccio's picture; as the Beatrice of Dante, and as other figures. He had previously identified Rosa and Ursula as the spiritual types of all womanly virtue and grace. He closeted himself for weeks with the portrait, *St. Ursula's Dream,* and copied every detail of it. Rosa, he was convinced, was sending messages through St. Ursula. Thoughts of his Lady in Heaven, of loving friends on earth, of figures in favorite pictures jostled each other in his mind. When the attack subsided he felt he had recovered his lost conviction of immortality.

In his introduction to *Deucalion*[16] he wrote, in 1875:

> The emotions of indignation, grief, controversial anxiety and vanity, or hopeless, and therefore uncontending scorn, are all as deadly to the body as poisonous air or polluted water; and when I reflect how much of the active part of my life has been spent in these states,—and that what remains to me of life can never be in any other,—I begin to ask myself, with somewhat pressing arithmetic, how much time is likely to be left me.

In 1877 his diary tells of a strain and a weariness, the emotional exaltation of incessant work, and an anxiety about a sense of blood going to his head. He had a panicky attack over the Fireworks (*Nocturne*) picture of Whistler, showed hyperexcitability in *Fors Clavigera,* and discursiveness and eccentricity in a lecture. With his fears, fluctuations of interest, and distractibility to newer projects, a collapse was imminent. Perhaps an inciting cause was the disappointment due to the frustration of his grandiose plans. There were other repeated indications of serious overstrain up to the time of his first serious breakdown in 1878, when he became "downright, admittedly mad." This lasted from February to April.

For the past few years he had in mind some 69 volumes of works that he was yet to write. Harrison says, "He was ever a megalomaniac, and never more so than when he was dreaming of what he was destined himself to achieve." But in his opinion, this was not so important. He wrote:

> The doctors said I went mad from overwork. . . . . I went mad because nothing came of my work. People would have understood my falling crazy if they heard that the manuscripts on which I had spent seven years of

my old life had all been asked to light the fire like Carlyle's first volume of *The French Revolution*. But they could not understand that I should be the least annoyed, far less fall ill in a frantic manner, because after I had got them published, nobody believed a word of them. . . . . The second (the enduring calamity under which I toil) is humiliation—resisted necessarily by dangerous and lonely pride.

In February, 1878, the long-anticipated attack occurred; by March he was convalescing; and in June he was well again. The actual onset was sudden, and he was in a delirium, with restlessness, and vivid dreams associated with imagined visions of his lost love. He speaks of the bitterness and "acute mental pain" under which he labored, and of "a dangerous state of more or less excited temper and too much quickened thought."

He described this illness in considerable detail later to a physician-friend:[17]

During my first illness of wild delirium—for I have had several such attacks, but the first was by far the worst—the voice of fowls was an inexpressible terror to me. Ridiculous as it may seem, my madness took the form of my ever being in conflict, more or less personal, with the Evil One. . . . . [He owned an old peacock which was always croaking.] I was lying ill upstairs, & so quickly flew my thoughts (I have since in my subsequent attacks, which were much less severe, been able to verify this extraordinary psychological fact . . . .) that every time he croaked I thought I was in a farmyard, & that I was impelled by the tyrant Devil to do some fearful wrong, which I strove with all my might and main to resist. But my passionate efforts were of no avail; & every time I did the wrong I heard the voice of the Demon—that is the peacock—give forth a loud croak of triumph. And this was more terrible than I can express in words.

In the 1st instance, when the illness 1st came upon me, I seemed to be aware of what was about to happen. I became powerfully impressed with the idea that the Devil was about to seize me, & I felt convinced that the only way to meet him—if efficient way there was—was to remain awake waiting for him all through the night, and combat him in a naked condition. I therefore threw off all my clothing, although it was a bitterly cold February night, & then awaited the Evil One. . . . . I cannot express to you the anguish & torture of mind that I then sustained. I walked up and down my room, to which I had retired about 11 o'clock, in a state of great agitation, entirely resolute as to the approaching struggle. Thus I marched about my little room, growing every moment into a state of greater & greater exaltation, & so it went on until the dawn began to break. . . . . It seemed to me very strange that that of which I had such a terrible and irresistible conviction had not come to pass. [He wondered at the non-appearance of this strange vision—then a large black cat sprang from behind the mirror.] Persuaded that the foul fiend was here at last in his own person . . . . I darted at it, as the best thing to do under the critical circumstances, & grappled with it

with both my hands, & gathering all the strength that was in me, I flung it with all my might & main against the floor. . . . .

A dull thud—nothing more. No malignant spectre arose which I pantingly looked for—nothing happened—I had triumphed! Then, worn out with bodily fatigue, with walking & waiting & watching, my mind racked with ecstasy & anguish, my body benumbed with the bitter cold of a freezing February night, I threw myself upon the bed, all unconscious, & there I was found later on in the morning in a state of prostration, & bereft of my senses.

I lay like that for a fortnight, during which I was in a state of wild delirium, & when at last I began to regain consciousness, the most fearful thoughts took possession of me. Demons appeared to me constantly, coming out of the darkness & forming themselves gradually into corporeal shapes, almost too horrible to think of. But even worse & more torturing than these were the fantastic, malignant, & awful imps & devils & witches that formed themselves out of various articles in the room. The knob on the top of one of the bedposts . . . . was continually turning into a leering gibbering witch. . . . .

There is a marvellous fact in connection with my illness which I believe is common to all who have suffered from the same disease; while all ugly things assume fearfully a horribly hideous forms, all beautiful objects appear ten times more lovely. . . . . In the other attacks . . . . I always knew what was coming; & whilst they were upon me I could examine & analyze their nature as if I were carrying out an independent investigation; & observe, in every case these illnesses have been brought on, not by overwork, as many have supposed, but by acute mental suffering or misfortune.

"I'm going crazy with the hares again" he once wrote. For he was generally tranquil in the intervals, knew all that had happened to him, and spoke of many incidents with a vivid recollection for details. By July he was able to write:[8]

I've got most of my strayed wits together again, for better or worse, and have for the present locked the gate they got out, and they seem all pretty quiet and very much ashamed of themselves, so I hope the best for them. The doctors say it was overwork and worry, which is partly true, and partly not. *Mere* overwork and worry might have soon ended me, but it would not have driven me crazy. I went crazy about St. Ursula & other saints,—chiefly young-lady saints,—& I rather suppose have offended the less pretty Fors Atropos, till she lost her temper. But the doctors know nothing either of St. Ursula or St. Kate, or St. Lachesis—& not much else of anything worth knowing.

The chief real danger of the delirium, I believe, was not in the brain disease itself, which was a temporary inflammation, running its course, & passing, but in the particular form it took during the first stages of recovery—the (quite usual, I believe, in such cases) refusal to eat anything; not that I didn't want to, but I wouldn't take it out of a cup with a rose on it or the like. . . . .

He summarized this attack of 1878 immediately afterwards by writing that it was

> one continued vision to me of my selfishnesses, prides, insolences, failures, written down day by day, it seemed to me, with reversed interpretation of all I had fondly thought done for others, as the mere framing out of my own vanity . . . . I was a double, or even treble creature, through a great part of that dream. . . . . It was more wonderful yet to find the madness made up into things so dreadful, out of things so trivial. One of the most provoking and disagreeable of the spectres was developed out of the firelight on my mahogany bed-post.

The successive attacks, which were characterized chiefly by delirium, were heralded by the same excitement and depression, and he recovered without consciousness of injury or loss of confidence in his powers, except for the "steady depression." Yet there was the haunting dread and poignant pathos of the imminence of recurrence. Harrison likened the attacks to passing storms, leaving a clear sky. There was never any abrupt failure of mental power, and he continued to work to his last days.

Ruskin wrote that the visions in his illnesses were mostly of Inferno, "but sometimes visions of Paradise, and one was almost compensated." The attacks were frequently induced by vexation and worry, and after a few weeks of wandering thoughts, left him the same as he was before, "only a little sadder and wiser." Collingwood [18] said that "all that I now remember of many a weary night and day is the vision of a great soul in torment, and through purgatorial fires the ineffable tenderness of the real man emerging, with his passionate appeal to justice and baffled desire for truth. To those who could not follow the wanderings of the wearied brain it was nothing but a horrible or grotesque nightmare."

In 1880 he wrote regarding his illness: [9]

> For a physician's estimate of it, indeed, I can only refer them to my physicians. But there were some conditions of it which I knew better than they could: namely, first, the precise and sharp distinction between the state of morbid inflammation of brain which gave rise to false visions, (whether in sleep, or trance, or waking, in broad daylight, with perfect knowledge of the real things in the room, while yet I saw others that were not there), and the not morbid, however dangerous, states of more or less excited temper, & too much quickened thought, which gradually led up to the illness, accelerating in action during the eight or ten days preceding the actual giving way of the brain (as may be enough seen in the fragmentary writing of the first edition of my notes on the Turner exhibition), & yet, up to the

transitional moment of first hallucination, entirely healthy, & in the full sense of the word "sane"; just as the natural inflammation of a healing wound in flesh is sane, up to the transitional edge where it may pass at a crisis into morbific, or even mortified substance. And this more or less inflamed, yet still perfectly healthy, condition of mental power, may be traced by any watchful reader, in *Fors,* nearly from its beginning,—that manner of mental ignition or irritation being for the time a great additional force, enabling me to discern more clearly, & say more vividly, what for long years it had been in my heart to say.

Now I observed that in talking of the illness, whether during its access or decline, none of the doctors even thought of thus distinguishing what was definitely diseased in the brain action, from what was simply curative—had there been time enough—of the wounded nature in me. And in the second place, not perceiving, or at least not admitting, this difference; nor, for the most past, apprehending (except for the one who really carried me through, & who never lost hope—Dr. Parsons of Hawkshead) that there *were* any mental wounds to be healed, they made, & still make, my friends more anxious about me than there is occasion for. . . . .

And in the draft of a preface to the second volume of Prosperpina he wrote:[19]

In the declining and shadowy hours of after life, these higher subjects of thought are too great and too fearful for me; and in concurrence with other provocations to labour and causes of sorrow, they have now twice [1878, 1881] thrown me into states of mental disease from which I have by little less than miracles recovered. . . . . The difference between these modes of mental wandering, and the conditions which have permanently affected the soundness of conclusion in the thoughts of many men of the highest intellectual power [is this]: The periods of delicious imagination through which I have myself passed are simply states of prolonged dream—sometimes of actual trance, unconscious of surrounding objects; sometimes of waking fantasy, disguising or associating itself with the immediate realities both of substance and sound; but, whatever its character, recognized afterwards as a dream or vision, just as distinctly as the dreams of common sleep. There is no physical suffering in the state, nor is it otherwise depressing to the system than as leading sometimes, in particular humours of anger or sorrow, to refusal of food. On the contrary, it seems to me that the involuntary wandering of the brain is sometimes almost a rest to it, & at the worst a far less strain than any resolute rational occupation; so that I believe I did myself much more real harm by three days' steady work on the axes of crystallization in quartz before my second illness began last February [1881] than I got during the illness itself, for three weeks of the company of uninvited phantoms & the course of imaginary events.

The recovery from the delirious condition is, indeed, more a consequence of the rest it enforces, than of medicine; & although at first accompanied with much depression of mind (partly natural and well-founded enough, in

finding that one has been in a state so disagreeable to one's friends & so humiliating to oneself), is far more rapid as regards bodily strength than it could be after a bad attack of influenza or the slightest attack of low fever; & so far as I can trace the effects of the illness on my mental powers, it leaves them only weaker in the patience of application, but neither distorts nor blunts them, so long as they can be used. I cannot now write so long as I could, nor deal with any questions involving laborious effort; but in ordinary faculties of judgment, modes of feeling, or play of what little fancy I ever had, I cannot trace more than such slackness or languor as age itself accounts for.

He described his condition during attacks as a "prolonged dream—sometimes of actual trance, unconscious of surrounding objects, sometimes of waking fantasy, disguising or associating itself with the immediate realities both of substance and sound." From 1879 to 1885 there was a marked increase of all his abnormal characteristics—extreme mobility of interest, alternating euphoria and depression, increased irritability, combative tendencies in hyperconfident happy moods, hostility to friends in depressed moods, obsessions, delusions, and eccentricities. He showed excitement, extravagant extemporizations, and attacks on scientists, whom he imagined were in league against him. He made expensive purchases of minerals.

In the 1880's the attacks of mania crowded quickly one upon the other. In 1881 after several milder threatenings, the delirium came back. In January he had depressed, sleepless nights, with "grotesque, terrific inevitable" dreams. In February he was prostrate with a "terrific delirium." He said:

I went wild again for three weeks or so, and have only just come to myself—if this be myself, and not the one that lives in dreams.

In May he wrote:

Both these illnesses have been part of one and the same constant thought, far out of sight to the people about me, and, of course, getting more and more separated from me as *they* go in the ways of the modern world, and *I go back* to live with my Father and my Mother and my Nurse, and one more—all waiting for me in the Land of the Leal.

He did not recover completely from this, but remained in great mental excitement, hostile to his friends, making plans for new activities, hesitating, despairing, shifting. In March 1882 a more serious and alarming attack followed. He mixed most of his oldest

and best friends with delirious dreams and unkind hallucinations. In August he wrote:

I got faster better this time, because Sir William Gull got me a pretty nurse, whom at first I took for Death (which shows how stupid it is for nurses to wear black), and then for my own general Fate and Spirit of Destiny, and then for a real nurse . . . . and slowly—rather with vexation and desolation than any pleasure of convalescence—I came gradually to perceive things in their realities; but it took me a good fortnight from the first passing away of the definite delirium to reason myself back into the world. . . . . I have learnt . . . . from these repeated dreams and fantasies, that we walk in a vain shadow and disquiet ourselves in vain. . . . . All the doctors say I needn't be ill unless I like, and I don't mean to like any more.

But in the beginning of 1883 he said: "I am so terribly afraid of my brains going again," and in March he wrote:

It is curious that I really look back to all these illnesses, except some parts of the first, with a kind of regret to have come back to the world. Life and Death were so wonderful, mingled like that—the hope and fear, the scenic majesty of delusion so awful—sometimes so beautiful. In this little room, where the quiet prosy sunshine is resting quietly on my prosy table—last year, at this very time, I saw stars rushing at each other—and thought the Lamps of London were gliding through the night into a World Collision. I took my pretty Devonshire farm-girl nurse for a Black Vision of Judgment; when I found I was still alive, a tinkly Italian organ became to me the music of the Spheres. Nothing was more notable to me through the illness than the general exaltation of the nerves of sight and hearing, and their power of making colour and sound harmonious, as well as intense—with alternation of faintness and horror of course. But I learned so much about the nature of Phantasy and Phantasm—it would seem totally inconceivable to me without seeing, how the unreal and real could be mixed.

In between, there were alternations of morbid elation and depression and in 1884 he was left shattered and incapable of continuous thought. In 1885 his fourth attack occurred, and 1886 his fifth. That year he wrote:

I learn a lot in these fits of the way one sees, hears, and fancies, in morbid conditions of the nerves. . . . . I suffer no pain whatsoever, and am not the least frightened for myself. . . . . Part of this last vision, in which a real thunderstorm came to play its own part, was terrific and sublime more than anybody can see, sane. . . . .

He added:

The last illness did indeed leave lessons as to the danger of mere active excitement of brain, which none of the four previous ones did.

In August he wrote:

> You ought not to be so anxious during the monsoons and cyclones of my poor old plagued brains. They clear off, and leave me, to say the least, as wise as I was before. Certainly this fit has been much nastier for me than any yet, and has left me frightened, but not so much hurt, as the last one.

The 1886 attack was very damaging; and was then followed by prospects of 36 new chapters of a book.

A friend died in 1887, which caused the deepening of a mood of depression. This soon passed to anger and suspicion, with delusions in the form of an acute persecution mania. With his despondency and impossible fancies, his tide of illness rose, and he never left the room for nearly a year. His mood was one of hostile depression. There were quiet intervals in the spring of 1888, followed by excitable states, with religious delusions, eccentric conduct, and wandering thoughts. By autumn he improved and wrote: "There have been symptoms of illness threatening me now for some time which I cannot conquer—but by getting away from the element of imagination which haunts me here." As he had previously noted, "I *must* get to work or I shall get utterly into dreamland." In December he was again full of morbid delusions, accompanied by painful thoughts, dreams, visions, and spirit messages. In 1888 euphoria alternated with despondency, and culminated into depression and delusions.

Many passages in *Præterita* indicate disturbances of mood, and after a fresh seizure in 1889 he was no longer able to go on with his work. In 1890 the London Herald reported him "hopelessly insane," adding that while Miss Kate Greenway, who was visiting him at Brentwood, was painting, he "suddenly seized her colors and a large brush and angrily daubed paints of all kinds over her sketches." In November during a violent paroxysm he broke all the windows in the house.

7.

> One would have thought purity gave strength, but it doesn't.[20]

Although he really had excellent physical health all his life, his mental illness brought on an intermittent state of valetudinarianism. Outstanding throughout his career was his pronounced lability of mood—swinging rapidly and widely from morbid depression to

elation and back again. He had no attacks of complete madness until he was 60. Once the psychotic episodes set in, he rarely achieved a balance between health and illness, although he had long periods of apparent sanity.

Increased psychomotor activity was constantly in evidence; he was always planning but not finishing larger and larger works. However, he perseverated in his interests long after they actually ceased to interest him. He showed a tendency towards exhibitionism; he always liked an audience; and wore unusual and conspicuous blue ties.

At the age of 40 he lost his delight and enthusiasm in nature and by the time he was 50 he had transferred this fault to nature herself. This was characteristic of him, in that he constantly rationalized. There was a new kind of *storm-cloud* and *plague-wind* which had come to destroy the beauty and pleasantness of the physical world; nature was deteriorating, the sun no longer shone with the same brilliance, the skies lost their radiance. Back of it was the devil, who perpetrated this evil to thwart God and plague man.

He rationalized his failure to capture mental health, and evolved general theories to make his strange actions admirable and his weaknesses seem strong. In his later days he was constantly running away from his mother, endeavoring to escape her. Because of this, and his imaginary shortcomings to his father, after their deaths he developed the notion that he was a lonely and pathetic orphan, a further excuse for his desires to break free from them.

An obsessional fear dating back perhaps to his early life, of fireflies and fireworks brought on his attack on Whistler, whose *Nocturne* annoyed him dreadfully. Well-known is the litigation following his critical abuse of Whistler and the ridiculous position it put him in.

An example of his grandiose trend can be seen in a statement made in 1879: "I know that I am at one with the wisest men of all ages . . . . and I know that it will be well for those who listen to me, in the degree they obey." He conceived it his mission to interpret to the world "the True, the Beautiful, and the Intellectual"; and he believed himself divinely inspired to do this. He was "a special authority on aspects of God." He had a manic impulse to preach, and in his manic moments he always assumed he stood alone in a world of wickedness and fallacy.

Wilenski contends, with much validity of proof, that the unevenness, the obscurity, the inconsistencies, and other puzzling attributes of the works of Ruskin, must be viewed in the light of his mental status at the very time of composition. Thus, the first volume of *Modern Painters* is manic in nature. *Munera Pulveris* (1862-3) abounds in rambling word-jingling and flight of ideas and obscurantism, and this is true of his Art Journal articles (1865, February, March, April). *Mornings in Florence,* a guide book, is "really a mosaic of autobiographical allusions and rationalizations." [4]

He used his pen constantly to explain away his self-indulgences and to relieve his obsessions. His works were filled with confusing irrelevancies and discursions. He believed that his manic excitement was *healthy* and curative through the release of inhibitions; and he distinguished his behavior from "the morbid inflammation of the brain which gave rise to false visions." His lack of insight is apparent, for he believed his psychotic experiences were "a great additional fire" enabling him to say more vividly "what for years it had been in his heart to say." [4]

The last ten years were spent in retirement, with recurrent episodes. His best hours were feebleness and depression, but the mental storms continued to mingle with the peace of old age. Thought-concentration was impossible, he had an alternating hostility and a docile gloom, was generally silent, occasionally excited and loquacious with explosive outbursts and sane periods. At times he was so violent he had to be strapped to a chair.

He died of influenza in 1900. Towards the end he said that at last he learned to be cheerful and to rest in spite of the starving and the dying of the forlorn, and notwithstanding the disregard with which the world had let go by his courageous plan of succour. But it was too late; the maternal installation of mind was too deeply rooted. His life ended as it began, concentratedly infantile in a psychological sense. His recurrent manias were but futile protests, magnified and distorted puerile tantrums. He could neither face nor escape reality, nor could he master the conflicts of his life. In truth, he had "the secret of extracting sadness from all things, instead of joy."

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A PROGRAM FOR THE DETERMINATION OF THE THERAPEUTIC EFFECTIVENESS OF THE PSYCHOANALYTIC METHOD.

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The very essence of the scientific method and particularly of any scientific therapeutic method lies in the fact that the limits of applicability, the effectiveness, and the positive and negative instances are accurately and explicitly stated.

The relative value of psychoanalytic *therapeutics* has been a matter of debate for almost as many years as the Freudian method has existed. So far as we can find the only two reports which have attempted to evaluate the method are those of the Berlin Psychoanalytic Institute [1] and of Kessel and Hyman.[2]

As an editorial of the Journal of the Americal Medical Association [3] pointed out, the report of the Berlin Psychoanalytic Institute was made and compiled solely by psychoanalysts. Furthermore, there were no comparable reports given nor were the usual scientific control groups employed.

The study of Kessel and Hyman reports the results of psychoanalytic therapy as administered to 33 patients at the hands of well qualified analysts. They conclude: "Of our 33 cases we classify 16, or almost half, as failures. This group includes all the true psychotic patients and all the patients beyond the age of 40 at the time of their analysis. Seventeen of the patients, slightly over 50 per cent, were helped. In five instances, or 15 per cent, it is no exaggeration to say that the cure was specific. In the 15 [*sic*] remaining cases the results were good but not startling, and at times the result was not specific but due to the modified circum-

[1] "Zehn Jahre Berliner Psychoanalytisches Institut." Internationaler Psychoanalytischer Verlag, Vienna, 1930.

[2] Kessel, L., and Hyman, H. T. "The Value of Psychoanalysis as a Therapeutic Procedure." Jour. Amer. Med. Assn., 1933, *101*, 1612-1615.

[3] Editorial. "An Evaluation of Psychoanalysis." Jour. Amer. Med. Assn., 1933, *101*, 1643-1644.

stances." This report, although of high merit and interest, cannot be considered as definitive from the scientific viewpoint because of the relatively small number of cases studied and the lack of a control group. It does emphasize the need of a more thoroughgoing scientific evaluation.

Several years ago the Psychiatric Institute conducted an investigation of the scientific therapeutic merits of the elimination of foci of infection as they bore on remission and recovery from mental disease. These studies of Kopeloff and Cheney [4] and Kopeloff and Kirby [5] might well serve as patterns for a similar investigation of the therapeutic value of psychoanalysis.

A program for the investigation of the therapeutic effectiveness of psychoanalysis may be outlined as follows: A group of at least 25 to 50 patients who have been diagnosed as psychoneurotic and a group of approximately the same number who have been diagnosed as psychotic (schizophrenic or manic-depressive) should be selected by physicians who are members of the International Psychoanalytic Association and who use the psychoanalytic method. These patients should be chosen because, in the judgment of the psychoanalyst, they are suffering from conditions which the psychoanalytic therapeutic method might reasonably be supposed to benefit. A written statement should be submitted by the analyst before the actual therapeutic procedure is undertaken, which would show in as precise a fashion as possible just what the mental ailments of the patient are at the time and a prognostication of what the therapy might be expected to bring about.

At the same time these two groups are being selected an equal number of other patients should be selected as a control group. These control patients should as nearly as possible match those in the therapeutic group as to age, sex, race or religion, socio-economic status, intelligence or school achievement, marital status, and occupation or training. A written statement of the difficulties of each patient together with the probable prognosis should be made a matter of record. Both the therapeutic and the control group should

[4] Kopeloff, N., and Cheney, C. O. "Studies in Focal Infection: Its Presence and Elimination in the Functional Psychoses." Amer. Jour. Psychiat., 1922, *2*, 139-156.

[5] Kopeloff, N., and Kirby, G. H. "Focal Infection and Mental Disease." Amer. Jour. Psychiat., 1923, *3*, 149-192.

be institutionalized in the same or in comparable psychopathic or mental hospitals. Both the therapeutic and the control group should receive the same physical medical care, hydrotherapy, occupational therapy, etc., that is offered by the hospital. The sole difference in the care of the two groups should be that the therapeutic group should receive intensive psychoanalytic therapy at the hands of well qualified analysts and the control group should receive a minimum of psychotherapy and no psychoanalytic therapy.[6] Both experimental groups should be hospitalized as long as their condition warrants, and should be followed by psychiatric interviews and social service investigation for 3 to 5 years after the experiments have been initiated.

It seems to us that such an experiment would have a variety of positive values.

1. The type of case (diagnosis, symptoms, age, sex, intellectual status, etc.) in which the psychoanalytic therapy is relatively or absolutely the most effective could be more clearly defined after such an experiment.

2. The type of case in which the psychoanalytic therapy is contraindicated could be more clearly defined.

3. The frequency of the therapeutic success and failure of psychoanalysis could be more accurately stated.

4. Recommendations concerning the addition of psychoanalysts to the mental hospital staff [7] could be more specifically stated.

5. A factual basis would be provided for future work in psychotherapy and mental re-education which could very well be substituted for the mass of theoretical dogma which at present obscures progress for the better development of psychotherapeutic methods.

Certain objections occur to us which might be urged against this research project. They may be stated and answered as follows:

1. *The psychoanalytic method is not a science but an art.* In answer to this we would call attention to the fact that Freud [8]

[6] In some ways it would be more desirable to enlarge the control group so that part of the patients received custodial care and only custodial care. Another group would receive psychotherapy from psychiatrists known to be anti-Freudian both in viewpoint and in methodology.

[7] Read, C. F., and Nerancy, J. T. "Modern State Hospital Treatment of the Psychotic." Jour. Amer. Med. Assn., 1935, *104*, 292-297.

[8] Freud, S. "New Introductory Lectures on Psychoanalysis." Norton, New York, 1933.

has specifically stated and maintained that the method was and is thoroughly scientific. If it is, then it should be open to the usual scientific checks and verifications.

2. *The therapeutic method of psychoanalysis has not yet been developed to a state which is susceptible of experimental verification.* Freud [9] states that he first published the method in 1895 (40 years ago). He first spoke publicly on psychoanalysis in 1909 (26 years ago). Certainly any method, even one so complicated and exacting as psychoanalysis, should be well enough developed to be scientifically checked and evaluated after a quarter of a century of intensive work by psychoanalytical practitioners and students.

3. *It is not possible to match individuals either absolutely or adequately in the therapeutic and in the control groups.* We agree that absolute matching exists only in Heaven. Adequate matching, that is, adequate for all practical and pragmatic purposes, could be effectually obtained either in any large mental hospital or in a hospital which has recourse to a large number of patients either by referral or by a selective process.

4. *It would be difficult to state adequately whether or not the therapeutic measures employed had been successful.* To a certain extent this is true, but we believe that the written statements submitted before each patient in either group was entered in the experiment should serve to objectify this point and to act as both a point of departure and as a signpost indicating the direction in which therapeutic results might be expected. The plan should work to the satisfaction of both those who are convinced of the merits of the psychoanalytic method and those who are dubious of it.

Finally we should like to emphasize that we have no intention of, or particular interest in, approving or disapproving of psychoanalysis or any particular part of the psychoanalytic structure except that of its therapeutic effectiveness. We are interested only in the evaluation of the therapeutic results which the method has been designed to obtain.

[9] Freud, S., "The History of the Psychoanalytic Movement." Nervous and Mental Disease Monograph Series No. 25. Nervous and Mental Disease Publishing Co., New York, 1917.

SUMMARY.

It is proposed to select two groups of mental patients, each member of each group to be matched as nearly as possible with respect to age, sex, intellect, diagnosis, socio-economic status, etc., with a member of a second group. Both groups are to receive identical treatment, except that one group, the therapeutic, is to receive intensive psychoanalytic therapy. The other or control group is to receive little or no psychotherapy and no psychoanalytic therapy. Written statements of the condition of all patients at the beginning of the experiment, together with the probable prognosis, should be made. All patients should be followed for several years until the outcome of the therapy or lack of therapy is clear. From this study we should gain information concerning the diagnostic type, age, sex, intellectual status, etc., for which psychoanalysis is indicated or contra-indicated. The frequency of success and failure of the psychoanalytic therapy could be stated. A basis for the relative worthwhileness of the use of psychoanalytic therapy and methods in the mental hospitals could be made.

SOME PSYCHIATRIC POINTS OF INTEREST IN AND ABOUT WASHINGTON.

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The American Psychiatric Association meeting this year will be held in Washington, May 13 to 17, at the Mayflower Hotel. This would appear to be a wise decision upon the part of the Association, as it is quite certain that no other city in the world can at this particular time equal Washington in wealth of psychiatric clinical material.

Unlike the local historians of the two preceding years, I am unable to get any aid relative to psychiatric historical data from Charles Dickens, as psychiatry was non-existent in Washington in 1842.

The late Dr. George M. Kober in his "Development of Charitable and Reformatory Institutions in the District of Columbia," states that the first provision for the care of the insane in Washington was made by city ordinance November 26, 1806. He states that the service was done on the contract system, which continued for a few years. Later on quiet patients were cared for in the alms-house and the violent cases in the jail. During the period 1832-35 we are told that: "not only was there no public provision for the care of the sick, but for the insane who developed violent symptoms the common jail was the only place provided." "In 1838," Dr. Kober quotes Charles Moore as saying, "there were 40 insane persons charged to the District, of whom 12 were sent to the hospitals in distant states; five were in common jails and the balance were managed by their friends in the best way their means and inclinations would permit." In this same year it was proposed to Congress that a hospital be erected for the care of insane patients in connection with a general hospital; but nothing was done until February 2, 1841, when an act passed by Congress authorized the marshal of the District of Columbia to send to the asylum at Baltimore all such lunatic persons as were confined in the jails of Washington and Alexandria counties, and all such

as might be considered lunatics by the circuit and criminal courts. On August 29, 1842, Congress made an appropriation of $10,000 to be spent in fitting out the old jail, erected in 1802, on Judiciary Square, for use as an insane asylum. However the policy of sending some insane patients to hospitals in other states, and confining others in jails and alms-houses was continued and, there being no use for the newly fitted asylum, Congress, by Act of June 5, 1844, directed the Commissioner of Public Grounds to allow the medical faculty of Columbian College to occupy the insane hospital with the adjoining grounds situated in Judiciary Square. Not until 1852 were any steps taken toward the definite establishment of a hospital for the mentally ill in the District of Columbia. In that year Congress made the first appropriation for the purchase of a site and erection of suitable buildings for the Government Hospital for the Insane, now Saint Elizabeths Hospital. This institution was finally opened in 1855, when 53 district indigent insane from the two Baltimore institutions, 11 insane persons detained in the U. S. Jail at Washington and some 10 private patients were admitted.

For those members of the Association who enjoy a postman's holiday, I give a brief outline of the institutions or organizations in the vicinity of Washington, which they may find of interest.

Gallinger Municipal Hospital.

The Gallinger Municipal Hospital, known until 1920 as the Washington Asylum or Washington Asylum and Jail, was established in 1846 and consisted of an alms-house, workhouse and hospital, located in the vicinity of 19th Street and Massachusetts Avenue, S.E. By a slow and painful process of evolution, this mal-assortment eventually became the City Hospital; the alms-house becoming a Home for the Aged and Infirm and the workhouse becoming a penal institution, under their respective administrations. The psychiatric department of this hospital, consisting of four buildings, sufficient to accommodate 180 patients, was formally opened January 10, 1922. Three of the buildings used for patients are grouped about a fourth, in which are the administrative offices. The buildings are not elaborate but are of the two-story pavilion type. The psychiatric department is

equipped with complete hydrotherapy, physiotherapy and occupational therapy. These sub-departments are separate for sexes and races. This division of the hospital functions as the psychiatric observation group. During the last fiscal year, July 1, 1933, to June 30, 1934, nearly four thousand patients were admitted, of whom the majority were brought in by the police or on the orders of the Board of Public Welfare, for mental observation. After short periods of treatment many were discharged to their homes, while approximately 700 were committed to Saint Elizabeths Hospital for further care and treatment. Many patients are admitted from the various public, as well as private, institutions. A considerable number are sent to the hospital by court for mental observation. A number of alcoholics and drug addicts are admitted voluntarily and also by police authority. Suspected feebleminded children and adults, as well as problem children, are sent to the department as out-patients for examination and recommendations.

Saint Elizabeths Hospital.

Saint Elizabeths Hospital, known to the doughboys and gobs as "The Little Red House on The Hill," is located in the southeastern section of the city, and was established by an Act of Congress in 1855. The act creating the institution stated: "There shall be in the District of Columbia a government hospital for the insane and its object shall be the most humane care and enlightened curative treatment of the insane of the Army and Navy of the United States and of the District of Columbia." The hospital, consisting of more than a hundred buildings and some 855 acres of ground, is situated upon an elevation overlooking the Anacostia and Potomac Rivers and a great part of the city of Washington. The grounds of the institution are considered by visitors among the most beautiful in Washington, containing, as they do, trees, shrubbery and plants from all parts of the world. The institution was opened in January of 1855 with the reception of 63 patients from the District of Columbia. The number of admissions rapidly increased and during the fiscal year 1933-34 there were 894 admissions. The greatest admission load was attained during the war period, when during the fiscal year 1918-19 more than 1800 patients were received. The original population of 63, has now

been increased to more than 5200 patients and approximately 1600 employees. From 1855 to 1917 the institution was known as the Government Hospital for the Insane. The latter year the name was changed to Saint Elizabeths Hospital, to avoid the stigma which the general public usually attaches to an institution for the insane, and today Saint Elizabeths Hospital is a hospital in fact as well as name, with the most modern equipment and facilities to care for every physical and mental condition.

The hospital is divided into two main departments: the administrative and professional. The administrative department is divided into business and service divisions. The professional department is divided into three clinical and a laboratory division, each in charge of a director. Each clinical division is made up of three services (one of which is the criminal department), each in charge of a senior assistant physician. There are eight psychiatric services and a medical and surgical service. This latter service was organized in 1920 and today occupies a modern 200-bed general hospital building, with an especially chosen, full-time professional staff, consisting of surgeon, internist, roentgenologist, syphilologist and internes, with additional part-time specialists. This building houses the usual hospital clinics, such as eye, ear, nose and throat; a complete dental clinic, with the necessary X-ray equipment; a gynecological clinic; a skin clinic; an especially equipped anti-luetic clinic. It is provided with high power mechanical apparatus, such as a radiographic machine for taking X-ray films; a fluoroscopic unit; 300,000 volt deep X-ray therapy machine; diathermia machines; mercury vapor ultra-violet ray and carbon arc ultra-violet ray machines for local therapy; an electrocardiograph; basal metabolism apparatus; a complete up-to-date operating unit, including the necessary operating tables and anesthetic apparatus. This service also has a building containing 200 beds devoted to convalescent or semi-hospital medical and surgical cases; also a 50-bed isolation building. This medical and surgical service operates much like a general hospital in any city. All cases on the psychiatric services suffering from physical conditions are transferred to this service or are referred to the proper clinics for out-patient treatments. The medical service is connected by a large corridor with a large, modern laboratory, in charge of a director, with a neuropathologist, bacteriologist and a number of technical assistants.

The laboratory staff continues its untiring efforts in research to prevent and cure physical and mental disorders. In addition to the usual clinical work, the laboratory staff performs a large number of autopsies, averaging about 76 per cent.

A special tubercular division is maintained in a modern 80-bed building recently completed and five tubercular cottages, each with a capacity of 22. The general tuberculosis sanatorium régime is carried out and in selective cases pneumothorax is performed.

This hospital was the first in the country to use the malarial treatment in the fight against paresis, in 1922, and now has a record of several hundred cases so treated.

From 1903 to 1929 there was no construction for the housing of patients at Saint Elizabeths Hospital, with the exception of seven temporary wards built during the war. Since 1929 however there has been considerable new construction, beginning with the medical and surgical building, and followed by a modern 80-bed tubercular building, two continuous treatment buildings, with approximately 338 beds, together with a service building containing modern kitchens and cafeteria dining-rooms, a new 400-bed male receiving building, and at the present time construction has been started on a 300-bed women's receiving service. Throughout the new buildings and in some of the older parts of the hospital, modern cafeteria service has been established.

The hospital receives patients from the Army, Navy, Marine Corps, Public Health Service, the Canal Zone and District of Columbia, insane prisoners from the federal penitentiaries, those in custody of federal authorities awaiting trial, who have been declared insane, and the hospital, by transfer, received 69 Indians when the hospital in South Dakota was discontinued.

This institution in the 80 years of its existence has had but four superintendents: Dr. Charles H. Nichols, 1855 to 1877; Dr. W. W. Godding, 1877 to 1899; Dr. A. P. Richardson, 1899 to 1903; Dr. William A. White, 1903 to date. It employs 46 physicians, one psychologist, a bacteriologist, two dentists and 668 ward personnel, including graduate nurses (232), psychiatric aides and trained attendants, and a large consulting staff composed of leaders in the medical profession in the city of Washington. Most members of the medical staff are associated with various mental and welfare societies in this area and contribute consider-

ably to the medical literature. A number of the members of the staff are on the faculties of local universities, and a number devote one evening a week to psychiatric work at the Life Adjustment Center. The hospital is not only of service to patients who under the law are entitled to admission thereto, but is frequently called upon by the various departments of the federal government for advice and help in handling personnel problems. It receives calls and letters from individuals and organizations throughout the United States, asking for advice and assistance. In addition to the care and treatment of patients and advisory service to the various departments, the hospital is a teaching center. Medical officers of the Army and Navy medical schools, and the medical students of George Washington and Howard Universities receive their instruction, both didactic and clinical, in mental diseases at this institution. The hospital also maintains a Social Service Department, which supervises patients on visit from the hospital and under its direction a number of students from the various local social service schools receive training.

The hospital conducts a three-year nurses' training school for R.N.'s and receives, in addition to our own students, affiliates of several schools which require psychiatry in their curricula, and post-graduates of other schools for six months of psychiatric training. All other ward personnel receive a one year course of lectures in the care and treatment of mental cases. The hospital has two types of interneship: a two-year accredited rotating interneship, consisting of 12 months of medicine and surgery, three months in pediatrics and obstetrics (affiliation), three months' laboratory work and six months' psychiatry; and a one year psychiatric residency or psychiatric interneship for those who have completed an accredited general interneship elsewhere.

The institution has an extensive medical library and in its reading room are available the latest periodicals on psychiatry and allied sciences. It has a circulating library of approximately 15,000 volumes for the use of patients, there being some three to four thousand volumes in daily circulation.

The Red Cross maintains a unit at this institution which provides and supervises social and recreational activities.

A number of up-to-date hydrotherapeutic units are scattered throughout the institution.

In addition to the occupational ward units, the hospital has a trade industrial shop, a willow shop, a large shoe shop, which, with the exception of the foreman, is operated by patients. Here shoes are manufactured for the use of hospital patients. Patients are also occupied in such departments as the dairy, piggery, poultry plant, bakery, farm, power plant, laundry, sewing room and in various other industrial trades.

Among the various official activities may be listed weekly conferences in the medical and surgical service; weekly conferences in the laboratory department where all cases which have come to autopsy are reviewed; semi-monthly clinical pathological conferences; daily staff conferences where parole, visit and discharge are considered; weekly conferences in the various admission services for official diagnosis, where each patient is presented after completion of the various examinations.

Division of Physical Anthropology.

National Museum, Constitution Avenue & 10th Street, N.W.

This Division of the National Museum, of which Dr. A. Hrdlička is Director, will prove of interest to many of the members of the Association. It is but a few blocks from the Mayflower Hotel. Among the things of special interest may be listed a collection of 400 human brains, ranging from the smallest embryonic to the adult brain; a collection of 1600 human skulls, containing practically all racial varieties and showing the normal evolution of man; a large collection of brains of the anthropoids, including 16 from the gorilla, six of which are adult, 50 brains from the orang-outang and a like collection from the gibbon. Many of these brains are from adult apes taken from animals especially killed for this collection. There is a very large collection of lower primate brains, some from species as yet only partially known. These collections show marked variations, even among members of the same family. There is also a large collection of brains from especially chosen slaughtered sheep and brains of birds, including a large collection of brains from sparrows and pigeons. Dr. Hrdlička will especially welcome members of this Association.

Washington Institute of Mental Hygiene.

This organization conducts a child guidance clinic, of which Dr. Paul J. Ewerhardt is the Director, and the Life Adjustment Center, of which Miss Beulah E. Smith, is Director. The child guidance clinic was opened at the Pope School Building in November, 1930, a branch service was started at the Children's Hospital December, 1931. The staff consists of a psychiatrist, psychologist, two social workers and two secretaries. Dr. Ewerhardt will be glad to discuss problems of this clinic with any who may be interested, at the quarters of the clinic—the Pope School, 7th and P Streets, N.W.

Life Adjustment Center.

The Life Adjustment Center was founded November, 1928, by the Rev. Moses R. Lovell, former minister of the Mt. Pleasant Congregational Church, as a three-month experimental non-sectarian project. January, 1931, it became the adult department of the Washington Institute of Mental Hygiene. Its staff consists of a full-time social worker and secretary and volunteer staff of 13 psychiatrists, one psychologist, four social workers, two clergymen and one attorney, who give part-time services. Both of these clinics, as well as the parent organization, the Washington Institute for Mental Hygiene, are agencies of the Community Chest.

Walter Reed General Hospital.

Walter Reed General Hospital is located on the Army Medical Center reservation in the northwest section of the city. This institution serves as a general hospital for the Army and as a station hospital for all the troops in the vicinity of Washington. It has approximately 1000 beds and treats approximately 10,000 patients in a year. It has a psychiatric department housed in two new three-story buildings with a total capacity of 197 beds, which might prove of interest to those interested in the operation of mental hospitals.

Division of Investigation, U. S. Department of Justice.

Mr. J. Edgar Hoover has stated that he will be happy to arrange for members of the Association interested to visit the office of

this Division in the new Department of Justice Building, and that he will also arrange to have the activities of this Division explained in detail to the members of the Association.

U. S. Naval Hospital, Washington, D. C.

The present Naval Hospital in Washington, which was opened in 1906, is located at 23d and E Streets, S.W., on a government reservation, where also the Naval Medical School is situated.

It has a total bed capacity of 328, with a department for neuropsychiatric patients, with a capacity of 25. The number of constantly used beds in this department has been 21, and the total average of used beds in the hospital has been 237.

The purpose of the psychiatric service is not the treatment and care of mental cases for any prolonged period but rather the establishing a mental diagnosis, at which time the patient is moved immediately to Saint Elizabeths Hospital, or discharged from the Naval service, if his condition is such that institutional care is not necessary. During the year 1934, 275 patients were handled in this department of the hospital, of which 105 were transferred to Saint Elizabeths Hospital.

Considering the age group of the majority of the patients handled, by far the greater number of cases are of schizophrenic reaction, with a fair number of paretics among the older men and occasionally a manic-depressive psychosis.

Patients are transferred to this hospital from other Naval Hospitals on the east coast where they have been sent for observation, particularly from the Norfolk Naval Hospital to which are admitted Navy patients from Panama, Virgin Islands, Porto Rico, Naval Station at Guantanamo Bay, and various ships along the coast. On the west coast the U. S. Naval Hospital, Mare Island (San Francisco), California, acts as a collecting station, where psychotic Navy patients are concentrated from stations up and down the west coast, ships in the Pacific, China, and our various island possessions. After a sufficient number of these patients are collected they are sent by special train once or twice a year to Washington, and many are admitted directly from the train to St. Elizabeths Hospital, the remainder being taken to the Washington Naval Hospital for further study and disposition.

There are on an average two Naval Medical Officers on duty in the neuropsychiatric department of the Washington Naval Hospital, the senior of whom acts as liaison officer from the Navy to St. Elizabeths Hospital.

Eastern State Hospital, Williamsburg, Va.

The Eastern State Hospital, located at Williamsburg, Va., serves the eastern portion of the state, made up of approximately 47 counties. Prior to the Revolutionary War, the insane were cared for by the church, in alms-houses or in jails, as their behavior demanded. The need for more suitable care was recognized in 1767 and on November 15, 1769, a committee was appointed by the House of Burgesses to prepare a bill "to make Provision for the Support and Maintenance of Idiots, Lunatics, and other persons of unsound Mind." The Bill was passed June 27, 1770, and trustees were appointed to buy land and erect buildings for the hospital. Among the names of the early trustees of the hospital are found those of Thomas Nelson, Peyton Randolph, George Wythe and others prominent during the Revolutionary War. The building was completed in 1773, and on September 13 the trustees advertised in the Gazette that "the hospital will be ready by the twelfth of next month for the reception of such idiots, lunatics, and persons of unsound mind as may be sent thereto." The first patient was admitted October 12, 1773. Free negroes were admitted as early as 1774 and in 1841 the legislature allowed slaves to be received as patients in the institution.

In 1841 the first medical superintendent was appointed, treatment and medical care being provided prior to this time by visiting physicians. In 1862 the hospital was taken over by the Federal Army, with Dr. P. Wagner, 5th Pennsylvania Cavalry, as Superintendent until 1865. Officers of the Federal Army remained on the board of directors until 1870.

None of the original buildings are now standing. The original structure remained intact until 1876 and was completely destroyed by fire in 1885. The Eastern State Hospital has been the official title of the old hospital for the insane since 1894. Before that it was known as the Eastern Lunatic Asylum, a title adopted in 1841.

At the beginning of the present fiscal year there were on the records of the hospital the names of 2020 patients, with a resident

population of 1438. For the past few years there has been an annual increase of approximately 75 patients actually in the hospital.

Patients are admitted by regular commission of lunacy. Voluntary admission for observation is by court order. All patients are first sent to a receiving ward for a period of observation before being transferred to the various wards of the hospital. Physical and mental examinations, Wassermann reactions, urinalysis, blood count, administration of typhoid vaccine and dental examinations are routine procedures on all new patients. Other examinations and laboratory procedures are carried out whenever indicated.

There is one building set apart to care for patients who are physically sick, and others requiring special dietary measures. In this building are also located the operating room, diathermy and ultra violet light equipment, X-ray department and laboratory. There is a full-time technician in attendance in the laboratory. The work in all other departments is carried on by members of the staff, resident on the hospital grounds. Many of the wards throughout the grounds are equipped with apparatus for the administration of hydrotherapy.

The hospital operates its own power plant for electricity and central heating system. It has its own water supply, laundry, ice plant, bakery, carpenter shop and machine shop. In addition to the grounds on which the wards are located the hospital also owns and operates a farm of approximately 500 acres and owns a large dairy herd. Many patients find beneficial and useful employment on the farm and in the dairy.

The administration of the hospital is carried on by the superintendent and the special board of directors, which with the special boards of the remaining state hospitals make up the general hospital board for the state.

Central State Hospital, Petersburg, Va.

This institution is probably the first hospital in the world established for the care of the colored insane exclusively. As early as 1774 free-born insane negroes were admitted to the asylum at Williamsburg, the colonial capital. As late as 1845 only 15 insane colored persons were being cared for there. The legislature in 1846 authorized the asylum to receive insane slaves. In 1862

there were 40 colored insane being cared for at the Williamsburg asylum. In 1869 there was established a temporary asylum at Richmond for their care. In 1870, the census shows 123 insane colored patients who were being cared for rather crudely in two plain whitewashed wooden buildings.

In the spring of 1885 the new institution built at Petersburg on the Kirkbride plan was ready for occupancy and 373 patients were moved from the temporary quarters at Richmond to the present Central State Hospital. The history of the institution from then to the present time is one of steady growth. Year by year additions have been made until today we find beside the original main building, twenty separate buildings housing nearly 3200 patients. Separate departments are maintained for the acute psychotic, the chronic insane, the criminal insane, the epileptic, the feebleminded, the tubercular and other minor groups. Although the earlier structures were of substantial brick construction, they were far from fireproof and five years ago at the solicitation of the hospital authorities the Governor authorized the installation of a complete automatic sprinkler system. All recent construction is of course fireproof.

Perhaps the most important addition to the hospital in recent years is the Medical Center, a complete general hospital for the treatment of the physically sick. This hospital has the usual surgical unit, X-ray and clinical laboratories, dental and physiotherapy departments. Medical Center is on the list of hospitals approved by the American College of Surgeons.

There is a second unit of the Medical Center now under construction which will be in effect a psychopathic pavilion, embodying the latest improvements usually found in a receiving ward.

The hospital property consists of about 2000 acres of land, including 1000 acres several miles distant on which two years ago a colony was established for the custodial care group of male patients.

The institution proper is beautifully situated on the U. S. Highway Number One, about three miles west of the city of Petersburg.

Crownsville State Hospital, Crownsville, Md.

Washington, Baltimore and Annapolis electric railway to Crownsville, about 40 miles. Highway—Generals or Defense—Defense turn left at South Haven on local road, about 30 miles.

The Crownsville State Hospital is located at Crownsville, Maryland, six miles from the historic city of Annapolis, the capitol of the state. This institution was created by an Act of the General Assembly on April 11, 1910, which made an appropriation of $100,000 for the purchase of land and erection of buildings. The first quota of 12 patients was housed in buildings on the purchased property, as a temporary organization to assist in the grading of building site and preliminary operations for the permanent structures. The present layout comprises a rather compact group of six brick buildings of fire proof construction, connected by corridors with service from a central kitchen. A recent construction was especially planned to meet the needs of a psychopathic building, in which an infirmary service is also included. Plans and specifications for a separate group, comprising administrative building and two cottages, to accommodate 100 feebleminded, have been completed. Contract for the construction will be awarded shortly. This institution is exclusively for colored persons and has a patient population of 1000.

Springfield State Hospital, Sykesville, Md.

Although Maryland contains the third oldest mental hospital in the United States (1797) this one hospital (Spring Grove) was the sole state facility until 1896. Agitation for an additional mental hospital was commenced by the Medical and Chirurgical Faculty of Maryland in 1893 at the instigation of its President, Dr. George H. Rohé, who was at the time Superintendent of the Maryland Hospital for the Insane at Catonsville. A committee of the Faculty discovered that there were 1000 mentally ill patients confined and improperly cared for in the county alms-houses and jails.

In view of these findings, the State Legislature provided $75,000 for the purchase of land and construction of an additional mental hospital "upon what is known as the cottage or segregate plan." The site selected was the 700 acre estate of "Springfield," near Sykesville, Carroll County, on the main line of the Baltimore and Ohio Railroad.

Dr. George H. Rohé, who had previously been Commissioner of Health for Baltimore City and Superintendent of the first Maryland mental hospital, was selected superintendent of the new

institution. His term of office was spent chiefly making plans for the new institution, and his remarkable foresight is indicated by the substantial adherence to these plans in future developments. After less than three years as superintendent, he died on February 6, 1899, and was succeeded by Dr. J. Clement Clark (appointed March 2, 1899—died May 28, 1929) who had formerly been first assistant physician at the Maryland Hospital for the Insane at Catonsville. During the early years of the institution, when patients were being cared for in renovated tenant houses, Dr. Rohé, with the consent of the Board of Managers, decided that they would pursue an open door policy in the treatment of patients, and consequently, the new buildings were planned and erected without bars on the windows. It was felt by Dr. Rohé that this system could only apply to the chronically ill, but Dr. Clark, after caring for several of the disturbed type satisfactorily, concluded that it could be used for these as well. Consequently, the construction has continued with little exception to be of the kind instituted by Dr. Rohé.

Whereas the first superintendent's stay in office had been occupied chiefly by planning. Dr. Clark was engaged in extending and carrying out these plans, and the following years showed a rapid physical growth of the institution. Until 1900 admissions had been limited to white male patients, but in that year the group for white females was erected and occupied. The growth of patient population necessitated the abandonment of small dining-rooms and the construction of central dining-rooms and kitchens, between the years 1910 and 1913. This patient growth also threw an unbearable load on the makeshift sanitary facilities, and in 1911, with the cooperation of the State Department of Health, provision was made for the proper disposition of sewage, the water supply was filtered and chlorinated, and the routine inoculation of patients against typhoid was started. These measures were followed up in 1923 by the construction of an up-to-date barn and the purchase of a tuberculosis-free herd of cattle.

The years 1900 to 1915 marked the physical growth of the institution, and in the latter year there was constructed the John Hubner Psychopathic Reception Hospital for the more accurate study of patients suffering from mental disease. Greater stress was laid on the physical health of patients, and hydrotherapeutic facilities were introduced. From then on advances have been along

medical lines, and in 1923 the Clark Colony was built to segregate and provide proper treatment for epileptics in the state.

The training school for nurses, which had been organized in 1902, with a curriculum extending over a two-year period, was in 1923 intensified and the course reduced to one year, thus establishing the first school in this country for registered practical nurses in a mental hospital. The training school has had a great deal to do with the quality of nursing care and with the spirit which has been built up amongst the personnel.

The hospital as presently constituted, consists of about 40 brick buildings of Georgian architecture arranged in four groups and caring for slightly over 2500 patients. The rolling country of central Maryland has provided an ideal location for architectural and landscaping planning, and the 1250 acres of grounds resemble more a college campus than a mental institution.

Baltimore, Md.

There are two outstanding institutions worthy of inspection and study in this neighboring city:

Phipps Institute, Johns Hopkins University, of which Dr. Adolf Meyer is Physician in Charge, and Sheppard and Enoch Pratt Hospital, Towson, Md., of which Dr. Ross McC. Chapman is Superintendent.

Among the private institutions in this area which are within driving distance and which may prove interesting and profitable to visitors are—*Westbrook Sanatorium, Richmond, Va., Chestnut Lodge Sanitarium, Rockville, Md., Harlem Lodge, Catonsville, Md., Laurel Sanitarium, Laurel, Md., Chevy Chase Sanatorium, Chevy Chase, Md.*

Among the non-institutional points of interest to medical men may be mentioned the Library of Congress, First and B Streets, S.E.; the Surgeon-General's Library (Army), Seventh and B Streets, S.W.; The Smithsonian Institution, on the Mall; the Folger Shakespeare Library, Second and East Capitol Streets; Freer Art Gallery, on the Mall; Pan-American Union Building, Seventeenth Street and Constitution Avenue; Corcoran Art Gallery, Seventeenth Street and New York Avenue; National Academy of Sciences, Constitution Avenue and Twenty-First Street, N.W.

Comment.

THE PRESENT STATUS OF PSYCHIATRIC EDUCATION.

Present-day progress in psychiatric education is in accord and closely correlated with the recommendations of recent studies in general medical education, namely the American Commission Report, the League of Nations Report, and the Report of the British Medical Association. Each of these reports emphasizes the importance of the psychological aspects of medicine, which means treatment of the person as well as the disease and greater recognition of the concept of medicine as a social agency. These reports also urge greater permeation of all teaching with the idea of prevention and demonstration of its methods and a closer correlation between the basic medical sciences and the clinical sciences.

At present there appears to be an unanimity of opinion concerning the importance of psychiatry in medical education, from which we can eventually expect a breakdown of the past isolation of psychiatry and its undergraduate teaching not from the viewpoint of a speciality but as a fundamental requirement for the general medical training and for those who may plan later to enter special practice. The endorsement by The American Psychiatric Association of flexible Class A standards for the teaching of psychiatry as recommended by the Division of Psychiatric Education of the National Committee for Mental Hygiene constitutes a great step forward. These standards do not mean uniformity in teaching. On the contrary, it is desirable that teaching shall vary in terms of situations peculiar to each medical school. One should speak, therefore, of standards and not of standardization. The important things will be the teaching personnel and the content and objectives of teaching. It is strongly recommended that psychiatry be taught during each of the four years of medicine. The preclinical foundations (psychobiology and psychopathology) are the most important part of the psychiatric curriculum. In most schools it is possible to present psychobiology during the first year although in some schools these essential preclinical foundations are given entirely during the second year.

Psychobiology means the admission of the study of the person to the curriculum of the medical student. This study of the person implies practical and theoretic experience in personality study and personality function and personality management. Psychobiology includes a study of the live body in action and of this action as shown in behavior responses, and avoids splitting off the something that is mental and the something that is physical. Behavior is not merely a function of the mind or a function of the various parts of the body but is considered as a function of the person as a recognized entity as well. Psychobiology is considered, therefore, along with anatomy and physiology, as an integral part of the preclinical tripod essential for the general medical training and not merely as a foundation for psychiatry alone. Each individual person contacted represents an unique, unduplicated experiment of nature which we call personality. To study personality, psychobiology begins with the here and now, to find out under what conditions the individual's complaints developed, the factors predisposing their formation, their working and course, results of their occurrence, and their modifiability. Psychobiology is a pluralistic science and does not confine itself to any special school or theory. It has an essentially objective viewpoint and aims to make constructive use of the assets of the individual. It is an ameliorative science as it does not consider that any condition is so hopeless that it does not offer some possibility for amelioration. Psychobiology is a genetic-dynamic science. In order to understand the individual we are studying at the present time, we should know the genetic-dynamic developments of the past. Psychobiology implies all common sense methods for the study of a person. It does not create a new terminology and it does not lend itself to the deadly rigidity of classification of disease entities of the past. It does lend itself, however, to the establishment of treatment procedures as representing the sum total of all efforts made in behalf of the adjustment of the individual with personality difficulties. Whereas in 1931-32 only 13 schools were teaching psychobiology, at the present time there are 28 schools.

Psychopathology, like the rest of pathology, is to be accepted as being a fundamental in the basic medical training. The foundations in psychobiology show the student can study, in the same way as he has studied himself, the personality of patients who are pre-

senting difficulties in adjustment. The study of examination methods in other fields of medicine should be completed during the preclinical years. This does not mean that the student occupies himself with behavior, *per se,* but with behaving individuals. Antemortem personality pathology is of vital significance as well as postmortem pathology.

The general principles underlying clinical instruction are likewise flexible depending on the existing facilities and local situations peculiar to each medical center. In the main, the clinical instruction should include practical work to supplement the didactic and preclinical instruction, using available ward and outpatient facilities and in some centers interdepartmental consultation (liaison) services. Adequate attention to the psychoneuroses along with emphasis on the early stages of the major psychoses is a requisite obligation of adequate clinical teaching. It can be anticipated that the past emphasis on end products and terminal stages will be largely eliminated in future teaching schedules. The bulk of this work may fall in the third year and the fourth year will be devoted to the complete examinations and formulation of a reasonable number of cases with a minimum of six.

Present-day progress in psychiatric education may be tersely described by stating that whereas in the 1931-32 appraisal, it was found that 14 of 68 schools visited were giving reasonably adequate instruction in psychiatry, at the present time approximately 25 schools are actually meeting the Class A standards and an additional 15 schools, making 40 in all, indicate that they plan to adopt Class A principles for the teaching of psychiatry in the near future. Approximately half of this group are now improving their psychiatric facilities and teaching personnel and many are utilizing medical wards in their teaching. In the near future, it seems probable that our graduates of medicine will have acquired, during their medical course, a right attitude towards professional duties and responsibilities, an ability to deal reasonably well in the early days of practice with such mental phenomena as may confront them, and such basic knowledge and mental training as will enable them to profit continuously by daily experience. In other words, they will have had such a well co-ordinated course of study that they will have become truly educated physicians and not merely skilled technicians.

FRANKLIN G. EBAUGH, M. D.

News and Notes.

REPORT OF NOMINATING COMMITTEE.—In accordance with the requirements of the Constitution the Nominating Committee for the year 1935 submits the following report:

For President: Clarence O. Cheney, M. D., New York, N. Y.
For President-elect: C. Macfie Campbell, M. D., Boston, Mass.
For Secretary-Treasurer: William C. Sandy, M. D., Harrisburg, Pa.
For Councillors: C. M. Hincks, M. D., New York and Toronto; J. Allen Jackson, M. D., Danville, Pa.; Walter L. Treadway, M. D., Washington, D. C.; George H. Stevenson, M. D., London, Ontario.
For Auditor: Julian W. Ashby, M. D., Raleigh, N. C.

GEORGE H. KIRBY, M. D., *Chairman,*
ALBERT M. BARRETT, M. D.,
CLARENCE B. FARRAR, M. D.,
ADOLF MEYER, M. D.,
ROGER C. SWINT, M. D.,
Nominating Committee.

PROGRAM 1935 MEETING.—The program for the Washington meeting gives promise of considerable variety in subjects and in background of those presenting the papers. Except for the opening meeting, when the president reads his address, there will be two concurrent sessions each morning and afternoon. On Monday the sections on convulsive disorders and on forensic psychiatry will hold two sessions each. The opening meeting of the Association occurs as usual on Tuesday morning. On Wednesday morning there will be a joint meeting of the Association with the section on psychoanalysis and the American Psychoanalytic Association.

There will be a symposium on the most important elements of the personality. Dr. Adolf Meyer will open and close this discussion which will be participated in by workers from several fields: pathology, chemistry, psychopathology, psychoanalysis, and so forth; Professor Walter R. Miles is guest speaker representing psychology. Another symposium will deal with the psychiatric implications of education, taking up the several levels of educational

work and the proper place of psychiatry therein; the guest contributor to this symposium is Dr. Vivian T. Thayer. There is a group of papers dealing with organic disorders either of the brain or of other structures influencing the mental state.

The laboratory is contributing a series of papers dealing with matters chemical and pathological. There will be papers on a variety of administrative topics.

Dr. Herbert Friedmann of the Smithsonian Institution will address the Association on the psychobiology of sex in birds. Members of the Association are presenting studies of childhood, of methods of examination and therapy, on clinical observations in various disorders and on the philosophy of certain concepts.

On Thursday evening there will be a considerable variety of topics presented for a round table discussion. The committee will be pleased to have notice of any other groups that are to meet for round table discussion.

The scientific exhibit has been given considerable thought this year and we are assured of a number of interesting presentations. The space designated is large enough to carry more than has already been brought to the attention of the Committee and further communications will be welcome. Moving pictures of hospital activities will be shown in a special room. Several films have been promised and others can be used profitably.

PROGRAM 1936 MEETING.—Dr. Hamilton, Chairman of the Committee on Program, calls attention to the desirability of early consideration of contributions to the program for next year. He writes as follows: "The Committee on Program is already considering plans for the meeting in 1936; its date and place will be announced later. The most thoughtful and valuable studies often take much more than a year to formulate, and it is helpful to the Association to know what projects are advancing. This committee is a continuing body and always happy to receive offerings for future meetings. Regrettably, interesting papers have had to be declined for the last several programs because they were offered too late. The committee wishes to avoid such embarrassment in future."

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—An examination of candidates for the certificate of the Board in

neurology, psychiatry or both neurology and psychiatry will be held at the Philadelphia General Hospital in Philadelphia on June 7 and 8, 1935, preceding the annual meeting of the American Medical Association in Atlantic City. It will include examination of patients with reports on and discussions of the findings on June 7, and oral and written examinations in neuro-anatomy, neurophysiology, psychobiology, psychopathology, neuropathology and the interpretation of roentgenograms on June 8.

Applications must be filed not later than April 8, 1935. Application blanks and further information can be secured from Dr. Walter Freeman, 1726 Eye Street, N. W., Washington, D. C.

THE SECOND INTERNATIONAL NEUROLOGICAL CONGRESS.—Further plans for the Second International Neurological Congress have been made by the local committee in London.

The morning and afternoon sessions devoted to the Epilepsies, under the direction of Professors Marburg and Rossi, will occupy the first day of the Congress, Monday, July 29. The program is as follows:

1. Prof. Dr. J. Abadie (Bordeaux): General Etiology of Epilepsy.
2. Prof. Dr. V. M. Buscaino (Catania): Special Etiology of Epilepsy.
3. Dr. Stanley Cobb (Boston): Experimental Pathogenesis of Epilepsy.
4. Dr. Frisch (Austria): Chemical Pathogenesis of Epilepsy.
5. Prof. Dr. K. Orzechowski (Warsaw): The Vegetative Nervous System in Relation to Pathogenesis.
6. Prof. Dr. W. Spielmeyer (Munich): Pathological Anatomy of Epilepsy.
7. Dr. Ulrich (Switzerland): Medical Therapy.
8. Dr. Wilder Penfield (Montreal): Surgical Therapy.
9. Dr. M. Sgalitzer (Vienna): X-ray Therapy.
10. Dr. L. J. J. Muskens (Amsterdam): Institutional and General Treatment.

On Tuesday morning the following program on the Physiology and Pathology of the Cerebrospinal Fluid, prepared by Professor Foerster, will be given at 9.30 a. m.

1. Dr. Lewis H. Weed (Baltimore): Physiology of Secretion and Resorption of the Cerebrospinal Fluid.
2. Dr. G. Schaltenbrand (Hamburg): Physiology of Secretion and Resorption and its Anatomical Basis.
3. Dr. Riser (Toulouse): Pathology of Secretion and Resorption.

4. Mr. Hugh Cairns (London): Therapeutic Procedures against Disturbances of Secretion and Resorption.
5. Dr. Georgi (Gverdon): Physicochemical Basis of Secretion and Resorption.

On Thursday morning, August 1, the following program on the Functions of the Frontal Lobes, prepared by Professor Claude, will be presented.

1. Prof. Dr. J. A. Barre (Strasbourg) and Prof. Dr. P. Delmas-Marsalet (Bordeaux): The Relation of the Functions of the Frontal Lobes to Manifestations of Cerebellar or Labyrinthine Type.
2. Prof. Dr. Kurt Goldstein: The Relations between the Frontal Lobes and Motor Functions.
3. Prof. Dr. A. Donaggio (Modena): The Relations of the Frontal Lobes with the Pyramidal System.
4. Dr. Clovis Vincent (Paris): Modifications of Function Observed after Surgical Intervention on the Frontal Lobes.

A consideration of the Hypothalamus and the Central Representation of the Autonomic System under the chairmanship of Professor Brouwer will be held on Friday, August 2, at 9.30 a. m.

1. Prof. Dr. C. U. Äriens Kappers (Amsterdam): Phylogenetic Development.
2. Prof. Le Gros Clark (Oxford): The Ontogenetic Development and Normal Conditions in Man.
3. Prof. Dr. W. R. Hess (Zurich): Physiology.
4. Prof. Dr. J. Lhermitte (Paris): Clinical and Pathological Aspects.
5. Dr. Harvey Cushing (New Haven): Surgery.

The afternoon sessions for miscellaneous subjects will begin at 2.00 p. m. and will be held Tuesday, Thursday and Friday afternoons. Miscellaneous papers will be presented at these sessions grouped under appropriate headings. The symposia will be held in the large hall of University College, Gower Street, W. C. 1; and the miscellaneous sessions will be held in the smaller lecture rooms of the college.

The official reception for all of the members of the Congress will be held on Monday evening at 9.00 p. m.—the exact place of the reception not yet being determined. On Tuesday, July 30, at 9.00 p. m., a reception by the President and Fellows of the Royal College of Physicians at their college, Pall Mall, S. W. 1, and by the President and Fellows of the Royal College of Surgeons at their college, Lincoln's Inn Fields, W. C. 2, will be held. On Thursday, August 1, at 7.30 p. m., the official banquet of the Con-

gress will be given at the Grosvenor House, Park Lane, W. 1. On Friday evening, August 2, at 8.30 p. m., the triennial Hughlings Jackson memorial lecture will be presented by Prof. Otfrid Foerster. All of the members of the Congress are cordially invited to attend this lecture. A reception will be held at 9.30 by the Section of Neurology of the Royal Society of Medicine following the conclusion of the lecture.

The S. S. " Manhattan " of the United States Lines has been selected as the official steamer for the American delegation to the Congress. She will sail from New York at noon on July 17 and is due to arrive at Plymouth, England, July 23. Since the opening date of the Congress is July 29, the intervening time is available for travel in England. Any steamer of the United States Lines is available for the return voyage to New York after the Congress, and there are frequent sailings from French, English and Irish ports.

The " Manhattan " carries cabin class and tourist class passengers. The minimum cabin class rate from New York to Plymouth, on a basis of half-round trip, is $154.50. Minimum tourist class passage on the same boat is $102.00. West bound, on the same basis, minimum cabin class fares range from $116.50 on the " President Harding " or " President Roosevelt," to $154.50 on the S. S. " Manhattan," or S. S. " Washington." After August 11, the westbound fares are somewhat higher. The S. S. " Washington " carries cabin class and tourist class, while the S. S. " President Roosevelt " and S. S. " President Harding " carry only cabin class.

The official travel agents, Thomas Cook and Son-Wagons-Lits Inc., suggest and offer an inclusive tour with a Continental extension, an outline of which is given below. Inclusive prices are available on application.

A number of hotels in London are recommended and the " Metropole " is especially suggested for American members, because of its location and facilities. The official travel agents will gladly make reservations at this or any other hotel upon request.

A variety of half day and day sightseeing excursions to and around London will be available during the period of the Congress and especially on Wednesday, July 31, on which day no Congress meetings are scheduled. These excursions will include London city sightseeing, Hampton Court, Windsor, Eton, Oxford, Cambridge, the Shakespeare Country and River Thames.

A booklet detailing the travel arrangements for both the ocean crossings and on land is in the course of preparation and will be sent upon request to the official travel agents or the American Secretary.

OFFICIAL MAIN TOUR.

July 17—Sail from New York on the S. S. "Manhattan" of the United States Lines.
July 23—Call at Cobb, Ireland. Arrive at Plymouth, England. By motor, via Truro and Falmouth, to Penzance, for the night.
July 24—By motor, via Land's End and St. Ives, to Newquay, for night.
July 25—By motor, via Tintagel, Clovelly, Bideford and Barnstaple, to Lynton, for the night.
July 26—By motor, via Minehead, Glastonbury and Wells, to Bath, for the night.
July 27—By motor, via Chippenham, Cirencester and Henley, to London.
July 28—In London, at leisure.
July 29 to August 2—In London, attending the Congress.
August 3—To Brussels, by rail and Channel steamer via Dover and Ostend with city sightseeing drive.
August 4—At Brussels. Visit the International Exhibition in the morning. To Paris by late afternoon train.
August 5 to August 7—At Paris. One day sightseeing drive; one day motor trip to Versailles and Malmaison. One day at leisure.
August 8—To Havre by train, and sail on the S. S. "President Harding" of the United States Lines.
August 16—Due in New York.

OFFICIAL EXTENSION TOUR.

July 17 to August 7—With the main tour.
August 8—To Lucerne by day train. Excursion by steamer to Brunnen and by mountain railway to Axenstein.
August 9—The Grand Alpine Tour by motor via the Furka and Grimsel Passes and the Rhone Glacier to Interlaken.
August 10—At Interlaken. Excursion to Lauterbrunnen and Murren.
August 11—By morning train over the Loetschberg-Simplon route to Stresa; by steamer across Lake Maggiore; by mountain railway and steamer to Lugano.
August 12—At Lugano. To Milan by afternoon train.
August 13—At Milan. Morning sightseeing drive.
August 14—To Venice by morning train.
August 15 and August 16—Day's sightseeing including the Lido.
August 17—To Genoa by day train.
August 18—To Nice by motor.
August 19—At Nice. By motor over the Corniche Drive to Mentone and Monte Carlo and return.

August 20—To Avignon by morning train. Afternoon sightseeing.
August 21—To Paris by day train.
August 22—To Havre and sail on the S. S. "President Roosevelt" of the United States Lines.
August 30—Due at New York.

According to the latest regulations of the British Committee, the time limit for the submission of titles and abstracts has been extended and the committee for the United States will accept titles and abstracts up to March 15. Abstracts for the program should not exceed 200 words. Papers can be presented before the Congress in English, French, German, Italian or Spanish, but the titles and abstracts must be prepared in either English, French or German. Ten minutes is allowed for the presentation of each paper on the miscellaneous programs.

There are two types of membership—active and associate. Active members consist of all neurologists, neurosurgeons, psychiatrists, and physicians or surgeons interested in neurology. The membership fee for active members is the equivalent of 25 Swiss francs. Associate members are non-professional persons, men or women, who are interested in the Congress. The fee for associate members is the equivalent of 12½ Swiss francs payable in dollars at the current rate of exchange to the secretary for the committee for the United States. Application for both active and associate membership should be made to the secretary of the committee for the United States. Titles of papers to be presented, together with abstracts, must be in the hands of the secretary of the committee from the United States before March 15 to receive consideration for inclusion in the program.

The personnel of the committee from the United States has been changed; the committee appointed by the Council of the American Neurological Association at its recent meeting is as follows:

B. Sachs, Chairman,
Henry Alsop Riley, Secretary,
117 E. 72d St., New York City,
James B. Ayer,
Williams B. Cadwalader,
Harvey Cushing,
George W. Hall,
Colin K. Russel.

MEETING OF AMERICAN ASSOCIATION ON MENTAL DEFICIENCY. The annual meeting of the American Association on Mental Deficiency will be held at the Hotel Palmer, Chicago, on April 25, 26, and 27. The Thursday and Friday sessions will be devoted to studies on mongolism; birth injury as an etiological factor in mental deficiency; mental disorders in mental deficiency; the problem of sterilization; defective delinquency and its relation to penal institutions; community supervision of the paroled mental defective; and newer methods in institutional training for community life. The Saturday session, on April 27, will be devoted to the sociological, psychological, and the special educational aspects of mental deficiency. Physicians are cordially invited to attend these sessions. Complete data on the program may be obtained from the secretary, Dr. Groves B. Smith, Godfrey, Illinois.

NEURO-PSYCHIATRIC SOCIETY OF NORTH CAROLINA.—The physicians of North Carolina who specialize in neurology and psychiatry held a meeting January 18, 1935, to organize the Neuro-Psychiatric Society of the State of North Carolina. Dr. Ernest M. Poate * of Southern Pines was elected president, Dr. John McCampbell of Morgantown State Hospital vice-president, and Dr. Sylvia Allen of Charlotte secretary-treasurer. Application will be made for the formation of a neuro-psychiatric section of the State Medical Society, and it is proposed to petition the General Assembly in 1937 to set up a Mental Hygiene Commission headed by an experienced psychiatrist with institutional training to take charge of the three state hospitals, the two schools for mentally defective children and the Samarcand Home for delinquent girls.

We may anticipate from this gratifying move further developments and improvements in the psychiatric services of the state and the promotion of the welfare of its wards.

TWENTIETH ANNIVERSARY OF THE MENTAL HYGIENE SOCIETY OF MARYLAND.—On February 14, 1935, the Mental Hygiene Society of Maryland held a dinner in celebration of the 25th anniversary of the founding of the mental hygiene movement, and the 20th anniversary of the Maryland Society. The dinner, at the

* Deceased Feb. 1, 1935.

Southern Hotel in Baltimore, was attended by more than four hundred people, representing a wide range of professional and lay groups. Physicians, social workers, psychiatrists, nurses, leaders in the field of public and private education, child-study association executives and leaders, clergy and lawyers, were all represented—a most gratifying evidence of the wide-spread community interest in the past and future of mental hygiene.

Dr. Thomas P. Sprunt, president of the Maryland Society, presided. Dr. Adolf Meyer reviewed the history of the mental hygiene movement and the progress that has been made in the field, particularly in Baltimore and Maryland. Dr. Clarence M. Hincks discussed recent developments and plans. Clifford Beers spoke informally in his inimitable and altogether delightful style, combining reminiscence with a challenge to meet future problems.

The Maryland Mental Hygiene Society was more than gratified by the positive evidence of community interest shown by the large attendance and the widely representative nature of the group.

Post-Graduate Course at the Menninger Clinic.—A post-graduate clinic in " Neuropsychiatry in General Practice " will be held at the Menninger Clinic, Topeka, Kansas, April 15-20 inclusive. Lectures, case studies, and seminars included in the five and a half day course will be exclusively directed to the application of modern neuropsychiatric principles to the cases which the general practitioner frequently sees in this field.

The course will be given by the members of the staff of the Menninger Clinic with the assistance of Doctors W. McK. Craig and Henry Woltman of the Mayo Clinic and Doctor Titus H. Harris of the University of Texas Medical School.

Dr. Raeder Goes to Boston University.—At the last meeting of the Trustees of Boston University, Dr. Oscar J. Raeder was appointed Associate Professor of Psychiatry in charge of the Department of Psychiatry of the Boston University Medical School. He succeeds Professor Winfred Overholser, who resigned at the end of the last school year.

"STANDARD CLASSIFIED NOMENCLATURE OF DISEASE."—This important work, issued by the Commonwealth Fund, now appears in a considerably enlarged second edition. The preface to the second edition contains the following interesting statement:

> Since the publication of the first edition, the Standard Classified Nomenclature of Disease has found its way into almost five hundred hospitals located in the United States and Canada. In one hundred and twenty, it was installed in the record rooms with the cooperation of the staff of the National Conference on Nomenclature of Disease. These include hospitals affiliated with the following medical schools: Harvard, Yale, Columbia, Cornell, Pennsylvania, Jefferson, Western Reserve, Indiana, Chicago, Rush, Washington, Duke, Vanderbilt, Tulane, Nebraska, and Stanford. Many medical schools have found the nomenclature of value in the teaching of medical students, particularly during the period of their clinical clerkship in the ward of hospitals.

Attention is also called to the fact that 27 national organizations, including, of course, The American Psychiatric Association, have officially approved the Standard Classified Nomenclature of Disease, 6 having signified their approval since the publication of the first edition, which appeared in January, 1933.

The revised nomenclature as shown in the second edition should be used by every mental hospital in the United States and Canada.

A copy of the book may be obtained from The Commonwealth Fund Division of Publications, 41 East 57th St., New York, N. Y. Inquiries relating to the use of the revised nomenclature should be addressed to Dr. H. B. Logie at No. 2 East 103rd St., New York, N. Y.

The classification of mental diseases as approved by The American Psychiatric Association was prepared by its Committee on Nomenclature and Statistics.

EUGENICS RESEARCH MEETING, 1935.—The twenty-third annual meeting of the Eugenics Research Association will be held in the Members Room of the American Museum of Natural History on Saturday, June 1, 1935. The principal theme of the meeting will be Mate Selection but there will be a section also devoted to current research in other fields of eugenics. Persons who desire to report researches at this meeting are invited to get in touch with Program Committee, Eugenics Research Association, Cold Spring Harbor, Long Island, N. Y.

ERRATA.—Dr. Neil A. Dayton calls attention to the following corrections to be made in his article: Influence of Size of Family upon the Characteristics of the Mentally Deficient, which appeared in the January, 1935, number of the JOURNAL.

Page 800, third line from bottom of page, strike out the words "or recessive"; last line, strike out the word "recessives" and substitute the word "carriers."

Page 801, foot-note, line 7; strike out the word "recessives" and substitute the word "hybrid."

Book Reviews.

CHILD PSYCHOLOGY. By *Arthur T. Jersild, Ph. D.* (New York: Prentice-Hall Inc., 1933.)

This book endeavors to summarize the recent developments in the study of the child. The material is presented in excellent fashion, starting with the new-born child and passing on to the acquisition of various capabilities. A number of specific topics are dealt with in different chapters such as the development of language, emotions, social behavior, intelligence, and personality. At the end of each chapter there is a list of references to material that has been utilized. The material covered in this book has been worked out in painstaking fashion, and the references utilized represent, in general, important studies which have been made. The facts are presented in a clear and simple manner so that the book can be understood by those with practically no training or experience in the subject. For this reason the book should make an excellent one for popular reading.

KARL M. BOWMAN.

DYNAMICS OF POPULATION. By *Frank Lorimer* and *Frederick Osborn.* (New York: Macmillan Company, 1934.)

Here is a milestone in population study. This volume is notable not so much for its original contributions in the way of fresh reports of population figures as in its scholarly assembly of all the important recent analyses of population trends in the United States. From the mass of tables thus presented, the authors study the potential influence of present trends upon future social and economic life in America. Three hundred and forty pages of report and interpretation of population trends and discussion of their causes and possible control, are followed by fifty pages of closely packed tables and these in turn by forty pages of carefully annotated bibliography.

The authors of *Dynamics of Population* are scholars, not propagandists. This study differs from many volumes on population in its total abstinence from any pointing with pride or viewing with alarm. While its pages bristle with minute accuracy, the material is presented in such systematic fashion that general conclusions are readily deduced.

This book has a deal of interesting information for the curious general reader, quite aside from the more important trends that are studied. For example, it is estimated that in 1927, there were 4,228,000 Jews in the United States. While thus they made up only 3.58 per cent of the total population, they constituted 11 per cent of the inhabitants of all large cities (100,000 and over) and were strikingly concentrated in New York, forming 16.7 per cent of the people of the State of New York and 29.6 per cent of the population of New York City.

Contrary to general belief, Negro natural increase and fertility rates are below those of the white population. This is the more remarkable since children of mixed blood who have any Negro ancestry are, in America, all classed as Negro. In spite of the addition of the great numbers of those of partially white ancestry, and entirely apart from additions to the white group by immigration, the natural increase of Negroes has for many decades been less than that of whites.

Also, contrary to current lore, not much difference is found in the reproduction rates of the various European immigrant stocks, and what differences there are tend to flatten out to the standard after a generation of life in America. The exceptions are where racial or cultural pockets are maintained in detachment from the general stream of American life. Especially high fertility rates and population increases are shown by Mexican immigrants, by French Canadians who have settled and remained in isolated groups in the United States, and—surprising to relate—by Indians, who after a steady decline as the aggressive colonists seized their land and drove them further and further into the shadows, have now begun a resurgence of numerical growth. Another item of curious interest is that the excessive increase in farm population is probably due in part to the fact that a much higher percentage of farm women are currently married than is the case with women in towns and cities. In one age group 89.6 per cent of all rural-farm women were reported as wives in active practice of their wifely occupation, *i. e.*, not widowed or divorced, while only 80.5 per cent of non-farm women of the same age group are in possession of husbands.

The most significant trends in American population growth are these:

1. The population curve for the nation as a whole is flattening out. Indications are that after two or three decades the population will become stationary or even decline slightly unless immigration or other influences outside the natural increase again change the curve.

2. The rural farm population maintains a natural increase of some 60 per cent per generation, while the urban population is far from reproducing itself, the larger cities showing at present a deficit in natural increase of more than 20 per cent per generation. Furthermore in the low income farm groups, effective fertility is found to rise as the level of living gets lower. Normally the surplus farm population is absorbed into the cities, but with the present stop in economic opportunities in industrial centers and the decline in the need for farm labor, it is difficult to see how America can absorb the 200,000 or more persons who are being added annually to the rural population.

3. There is a serious differential in the fertility of social classes. For example, after a multitude of allowances and adjustments, it is estimated that throughout the registration area of the entire country, wives of men in the unskilled labor groups are having 15 per cent more children than would suffice for family replacement, whereas mothers with husbands in the professional groups are having only about 75 per cent of the number of children needed for replacement. Recent surveys of several large cities show that families with very low incomes or with unemployed workers consistently

maintained a much higher birth rate during the depression years than families with higher incomes and constant employment.

The authors are careful not to assume that rural populations or unskilled or low income laborers are necessarily poorer stock from which to draw future populations than the wealthier and better educated, but they do point out that the new generations of Americans are tending to be disproportionately recruited from areas and groups with low standards of living and inferior educational opportunities. Two mass tendencies are apparently moving in direct opposition: the conscious force of educational endeavor, and the blind influence of present population drift.

As the authors point out, the chief value of even so scholarly a work as this, is to indicate that population study may and should become a science and should be pursued vigorously by careful students in the hope that rational social action may replace the operation of blind forces in this very significant field. The trends of population growth, while less spectacular than war and plague or airplanes and communism, are among the most fundamental of social problems.

EDWIN R. EMBREE.

ONE THOUSAND JUVENILE DELINQUENTS. By *Sheldon Glueck* and *Eleanor T. Glueck*. Vol. I, Survey of Crime and Criminal Justice in Boston, conducted by the Harvard Law School. (Cambridge: Harvard University Press, 1934.)

It is hard to believe that it was the prime purpose of the Gluecks in their *One Thousand Juvenile Delinquents* to "debunk" the juvenile court and clinic movement. This is not what the Harvard Crime Survey, of which this volume is the first to appear, had set up as an objective. Moreover, this movement had already learned that the "wild" claims made for it at its very inception were unattainable. Juvenile and child guidance clinics had come to learn that children referred by juvenile courts were on the whole unpromising material for clinical treatment. But perhaps the Gluecks had the general public in mind and so organized their work that it would have a popular appeal. If so, it seems that they have succeeded far above their expectations.

The feeling abroad—among laymen, university professors, lawyers, physicians, psychiatrists, psychologists, and social workers, who have read the book—is that not only has the set-up in Boston miserably failed but that the juvenile courts and clinics of the country are in general ineffective.

But despite my disinclination to believe that the Gluecks had it in mind to create such depressing and undeserving impressions, it is nevertheless a fact that they themselves subscribe to these gloomy estimates of juvenile court and clinic work, not only of the Boston Juvenile Court and the Judge Baker Foundation but for the country as a whole.

Almost coincident with the appearance of *One Thousand Juvenile Delinquents* appeared a lengthy review of it in the article section of the February *Midmonthly Survey* by Dr. Richard Cabot. One cannot escape the impression

that Dr. Cabot gained from reading the book—"An appallingly complete and costly failure, a stupendous waste of time, money and effort in an attempt to check delinquency." Further, Dr. Cabot gives his view that the results of the Gluecks' study apply to the movement generally. And still further, he intimates that the Gluecks whitewashed somewhat the implications of their findings out of "their respect for the extraordinarily high character, industry, and expertness of those whose work they are examining," for "the Gluecks modestly understate the results of their findings."

Who could better interpret the Gluecks' work and their intentions than Dr. Cabot who has been intimately associated with their professional work for a long time? Some commentators, however, have declared that Dr. Cabot's review misrepresented the Gluecks' position. But Dr. Cabot has made himself clear on this point in a letter to the Editor of the June *Midmonthly Survey* in which he says, "Several writers have tried to make a distinction between what the Gluecks think and what I think. The Gluecks read and approved my review (which had just been referred to) before it was sent to the *Survey*. They agreed with it then, they agree with it now."

One may seriously question the adequacy of the sample studied—one thousand delinquent boys referred by the Boston Juvenile Court to the Judge Baker Foundation during the years 1917-1922—to decide such a wide question as effectiveness of juvenile courts and clinics generally. One may also legitimately point out that contrasting samples should have been studied before estimating the efficiency of the Boston court and clinic. "Honesty, candor and realism toward the delinquency problem" should have stressed and re-stressed that this study of the Boston Juvenile Court and the Judge Baker Foundation was a limited one and circumscribed as to its implications. It is my view that the Gluecks definitely erred in not taking adequate precaution to discourage the wide and erroneous generalizations which seem to be the rule and not the exception. Rather they appear to have encouraged this tendency to some extent. Certainly such precaution is particularly requisite in a scientific contribution bearing the imprimatur of Harvard University which gives it exceptional distinction and authority.

It may be that advising the continuance of juvenile clinics and courts generally, and in Boston specifically, despite the gloomy interpretations of the findings, is the Gluecks' way of tempering them. It is a poor way, not only because it did not succeed but because it seems so contradictory. Dr. Cabot's reasoning is more consistent with the facts as displayed by the Gluecks, although his conclusions are not in accord with mine. If the results of the Boston Juvenile Court and the Judge Baker Foundation are so "disappointing" to the Gluecks solely because of the failure to prevent further recidivism in 88.2 per cent of the boys studied, why advocate their continuance (with improvements of their external and internal functions, it is granted)? If the rate of continued recidivism is the sole measure of effectiveness, as one cannot help believing was the case originally when the Gluecks set up their research, why not be consistent and logical and advise discontinuance? But perhaps the high rate of post-treatment recidivism which eventually was found surprised them so that other criteria had to be

found to justify continuance. If these criteria are now the critical, determining ones and the high rate of post-treatment recidivism is no longer an adequate measure of effectiveness, why bother with the latter at all; or, if of academic interest, why give it the emphasis accorded the finding, an emphasis so prominent that *88.2 per cent* was on almost everyone's tongue for sometime after publication. In other words, the follow-up results do not prove pertinent to the critical question of continuance.

Of particular interest to the psychiatric reader is the Gluecks' study of what they prefer to call "danger signals" of delinquency. These include factors under the "mental make-up, developmental history and social background of our one thousand delinquent boys." These factors are too numerous to give in full and only a few will be mentioned here: Birthplace of Parents, Education of Parents, Economic Status of Families, Disciplinary Practice of the Parents, Size of Family, Education of the Boys, School Retardation, the Boys' I.Q., the Age of First Misbehavior, Habits, and Mental Condition: Ideations, Conflicts, and Dissatisfactions. The Gluecks elsewhere define "danger signals" as "merely warnings of possible tendencies toward confirmed delinquency." They write, "Not all children who display the warning signs of potential delinquency become delinquent, nor do all delinquents show the danger signals of their future misconduct." They prefer to deal with "danger signals" rather than causative factors because their studies in this field have proved inconclusive. The factors which they call "danger signals" (as mentioned above) are practically the same which they and others have called at one time or another causative factors. One reason, the Gluecks tell us, which makes studies in the field of causation so fruitless is that factors found to be related to delinquency are also found among non-delinquents. For instance, it was noted in Chicago studies of delinquency areas that the highest rate was found around the "Loop," or in that district. The rate actually obtained was 15 per cent. Why did not the other 85 per cent commit delinquencies? the Gluecks would ask. By calling these factors "danger signals," they believe they overcome this and similar objections. Unquestionably this is only a distinction of words, not one of truth. It would take us too far afield to go into this subject. The various theories of causation would have to be described and discussed; the weakness of the Gluecks' logic and treatment would then become apparent.

Instead, criticism from a more obvious, simpler and less time- and space-consuming angle will be given here. All of the "danger signals" studied by the Gluecks are found in many social and personal conditions other than delinquency of the confirmed type. A low I.Q. is found in those who finally enter our schools for the feebleminded. Many boys in large families (omitting from consideration the thousands born to large families who become self-supporting, respected and useful citizens) eventually become insane, ill, dependent, get into the divorce court—almost any human difficulty may be mentioned here. "Mental conflicts" are "danger signals" not alone of delinquency and criminality, but of maladjustments of all kinds. Why go on with further examples of this sort of thing? If these "danger signals" may

be considered "danger signals" at all, they should be thought of as such for a host of conditions, not for delinquency alone.

What has happened here is not an infrequent occurrence in statistical studies by persons not skilled in statistical method and is due to failure to use "control" data or to use them properly. The Gluecks are not oblivious to the significance of "control" data; what they have failed to realize is that without "control" data, one's statistical results have descriptive value only. Statistical induction (that is, getting meaning out of figures) requires "control" data, and also various methodological precautions, pertinent qualitative information outside of the statistics in hand, and the judgment of seasoned experience.

In short, the Gluecks *really* found no significant "danger signals" for confirmed delinquency, *although they believe they did*. Either no control data were available; or if available, they were in most instances not even approximately comparable; or no specific factors were found that were always associated with delinquency—exactly the same reasons that have made it difficult to find significant causative factors.

The Gluecks' treatment of this topic is weak. It is questionable whether in the present state of psychiatry and social science, the subject of causation or even of "danger signals," which, in reality, is a distinction without a difference, can be studied practically by the statistical method. These "danger signals" should have been studied along psychiatric lines (beyond what was found in the case records), if it were absolutely necessary to carry out the commission of the Harvard Crime Survey that these be investigated. Certainly an *a priori* consideration of this problem would have led to intensive psychiatric investigation. If statistical methods were utilized, they would be of the simplest sort to test out a few hypotheses carefully thought out in advance. In addition, every precaution would be taken to assure that the essential data were available, and these data would be carefully subjected to tests for reliability.

Unquestionably the Gluecks' *One Thousand Juvenile Delinquents* has much in it to be commended. The recommendations which have in mind the improvement of the practice of the Boston court and clinic appear to have considerable merit. However, it is hoped that survey studies like the one under consideration should be careful to avoid "impressions" if not conclusions which may result in harm being done to humanitarian causes where good is really intended and accomplished.

HENRY B. ELKIND.

OSTEOMYELITIS, ITS PATHOGENESIS, SYMPTOMATOLOGY AND TREATMENT. By *Abraham O. Wilensky*. (New York: Macmillan Company, 1934.)

This book is well worthy of attention by the orthopædist, surgeon, and pathologist. The author has presented the subject of osteomyelitis in a new and attractive manner, which must appeal to everyone in the profession interested in the subject of bone infections. An excellent historical review is given with an extensive bibliography. The information, which was available to the ancients on bone diseases, will surprise those who have not

delved in the writings of some of the masters of the Greek and Roman periods. More interesting, however, are the studies which began with the 18th century and have continued to the present time. In entering upon the modern views of osteomyelitis the author insists upon an accurate knowledge of the anatomy, bacteriology, and pathology of the disease. These subjects are carefully reviewed in respect to experimental confirmation of the findings in the human. A good analysis of statistics indicating the distribution in various trades, at various seasons of the year, at different ages, and in the various bones is given. The author then enters upon a discussion of the various types of osteomyelitis in respect to their manner of development and to their location within special areas of the bone. Complications associated with the different lesions are also well described. The treatment of the condition is dealt with in a general way, not spending too much time upon operative procedures and special instruments. The book deserves a place in the hands of every individual who is interested in osteomyelitis and who wishes to deal with the subject in a modern and scientific manner. It is an excellent monograph.

OSKAR KLOTZ.

PROBATION AND CRIMINAL JUSTICE. Edited by *Sheldon Glueck*. (New York: Macmillan Co.)

Here is a carefully planned, excellently presented symposium on the problems of probation, representing the conclusions of 15 students and workers in the field of probation and criminal justice. In the opinion of the editor, Dr. Sheldon Glueck, who is widely known for his enlightened contribution to criminology, probation as a correctional factor is still in a superficial and wasteful state of development. He believes that until the personnel, the investigation and the supervision of the offender, and other aspects of the probation method are considerably improved, little progress will be made in the scientific treatment of criminals.

Judge Joseph N. Ulman, of the Supreme Bench of Baltimore City, from the standpoint of the dilemma confronting the judge in determining in what cases he is justified in employing the probation method, contributes a particularly enlightening chapter.

"The judge," he writes, "who is about to pronounce sentence will always, and necessarily, face a delicate and difficult task. No matter what machinery may be devised and used to aid him in determining the factors that make up the human defendant before him, no matter what degree of experience and of wisdom that judge may bring to the performance of that task, it will always tax his utmost skill."

What makes Judge Ulman's contribution a paper of real importance is his effort to describe clearly the thought processes of a judge in performing his judicial functions.

Other contributors include Bernard Glueck, Charles L. Chute, Bernard J. Fagan, Thorsten Sellin, and Hans Weiss. Chapters also are included on similar problems in England, France, Belgium and Germany.

JAMES M. HEPBRON.

SCHIZOPHRENIA. Duke Psychological Monograph No. 2. By *Helge Lundholm, Ph.D.* (Durham, N. C.: Duke University Press.)

Prof. Lundholm, Associate Prof. of Psychology at Duke University and associate of William McDougall, has attempted in this monograph a theoretical interpretation of the puzzling mechanisms of schizophrenia development carried out "entirely in the psychological realm."

He has followed, in the main, the general doctrine of psychology as taught by McDougall. Lundholm's concept of schizophrenia is identical with Kraepelin's dementia præcox and he accepts the Kraepelinian position which describes a fatal disease terminating in dementia. Three factors, prepsychotic history, onset and clinical disease picture, must be thoroughly studied as a basis for the diagnosis.

In order to clarify his position relative to schizophrenia in comparison to the manic-depressive psychosis, the author reiterates his conclusion that the latter is essentially a toxic reaction resulting from a fatigue product of metabolism or a fatigue product conjoined with some other chemical. This follows upon the basic assumption of a causal psycho-physical interrelation and the neuro-physiological effect of a depressant drug. If there is any validity in the toxic theories of schizophrenia held by many, including Kraepelin himself, the autotoxemia is not the result of a disintegrative chemical. The schizophrenic syndrome is entirely apart from such a toxic causal process.

The clinical types of schizophrenia, including the classical grouping of Kraepelin—the hebephrenic, catatonic and paranoid, together with many sub-types, are made upon arbitrary ground and are of little value in studying the process itself. The hebephrenic type is subject to catatonic excitement while cases of catatonic onset have developed into hebephrenic pictures. The paranoid also gives expression to catatonic episodes. The degree of systematization of delusions and the rate of progress of dementia are the more significant factors. Jung's, and his pupil Beatrice Hinkle's, concepts of extroversion and introversion are inadequate in their attempted description of typical human conduct traits. Since they are collective they might apply to a man in one respect but would not apply to him in another. The author divides these into elements under two heads: altrocentric and egocentric traits. Under the former are grouped: extrospective, extroactive and sympathetic (altruistic). Under the latter are included: introspective, seclusive and egotistic. These traits are considered to have exclusive social significance. The extrospective seeks "information in the study of others," the introspective seeks "information in the study of himself," the extroactive" seeks social contact."

While the schizophrene converges toward the fatal terminus of dementia, this process may go on with different speeds in different cases. "The common feature of all the variants of schizophrenia is the strong egotistic tendency and the consequential absence of altruistic sentiment." This statement represents the author's conception of the fundamental principle underlying the disease.

Catatonic states are considered as positive anti-social reactions, not as seclusive states due to disinterest in social environment. In support of this position, the author states that, (1) The pseudo-stuporous patient retains some interest in social experience. Catatonic stupor is termed pseudo-stupor to distinguish it from what the author believes to be true stupor in the manic-depressive psychosis. (2) The tenseness relaxes when the patient is left alone.

Delusion, defined as false belief, gives only an incomplete picture since trueness and falseness are relative concepts dependent upon many variables of race, nation, economy, individual or group. The causative factor of delusions is the wish; the wish to escape from an intolerable situation brought about by some painful self-recognition. Such a delusion of a mental disease type is at variance with the group belief; it is frequently in opposition to the core of beliefs of the individual himself. There are two stages in the gradual personality absorption of the false belief. During the first stage, he suffers "a nagging doubt." He attempts to rationalize so that his total experience will be more in harmony with his belief and in further support of his delusional accretion falsifies the past and present. The spread of the delusion transforms his reality sphere into a fusion of imagination and true realism. The extent of this disintegrating process is dependent upon: "The amount of experience which needs to be distorted in order to allow the delusion to rule without conflict" and is ". . . . to some extent determined by the strength of the urge to believe." Thus, the delusional mechanism is positive and wishful.

What is it, however, which underlies the inability of the deteriorated to distinguish the objective from the fanciful or conversely what enables the individual of the more alert type to differentiate between these extremes? For briefness, the author calls this reality function the R-function and ascribes to it a paramount importance in his theoretical interpretation. "In psychological terms, this reality function is an ergetic system and since it is sentiment, its energy must come from instinct." The author believes that this comes from a "pure curiosity impulse" which is gradually weakened as the patient's energy becomes progressively distorted in fanciful egotistic colors. The R-function is weakened by "prolonged repression of an egotistically colored self regard."

In his discussion of the subjective reality-sphere of the schizophrenic, Prof. Lundholm attacks the conclusions of many psychiatrists to the effect that the thinking process is disconnected or to use a modern term, scattered. Such a thesis can only be established by "an appreciation of the apparent thought fragment in its relation to the total trend of cognition of the individual who thinks and this total trend may not be expressed in the series of fragments."

The hypothesis of regression attempts to establish "a completely passive principle." Only an *active* principle can account for the characteristics of this disorder and this operates through the repression of reality function. "The schizophrene at the height of his psychosis is a character in the sense

of an integrated being, just as the normal man, but his character is asocial, unsound having become integrated under purely egotistic master sentiments by a perversion of mental growth starting in early childhood."

The dementing process in schizophrenia is explained as due to "disuse" of mental function. This explanation throws light upon the retention of other functions when certain sets deteriorate. The predominating egotistic striving results in the deterioration of the social functions while many non-social activities may be continued.

Egotism, which the author considers a common feature of the schizophrenic patient previous to as well as during the stage of psychosis, is assumed to have a constitutional basis. In explanation and affirmation of this, Prof. Lundholm propounds his theory of the "E-disposition." "The E-disposition is one in which by birth the protective instinct is weak or absent and the submissive instinctive impulse is also of undue weakness. E-disposition prohibits proper social adjustment by means of the process of sublimation and leaves the individual merely the less efficient route of adjustment by repression." The egotistic pattern may express itself in either positive or negative form; the latter in "exaggerated avoidance of self injury." The author gives a most penetrating and graceful delineation of the egotistic process affirming that "the over-considering of himself causes his social expression to lose grace, make it appear awkward, affective and theatrical." The descriptions of Kretschmer are inexact; more than half of his traits can be recognized as superimpositions upon a fundamental egotism. Levels of constitutional similarity between the schizophrenic and hysterical may well exist according to the author. The constitutional factor enables the schizophrene to inhibit and create a smooth working automatic system opening up means to attain gratification of his egotistic trend. Now, through the weakening of the R-function, the subjective reality-sphere in which dreams and fancies come true is integrated. He dements because of disuse of function, resistance becomes less, "and so, finally, he, the son of man, reaches a stage when he is merely a bundle of metabolizing physiological tissue; *Sic itur ad astra.*"

In commenting, one feels that the author deserves commendation for advancing so consistently beyond the pure descriptive level, and while many of his conclusions are acknowledged by him to represent theoretical speculation, they have a pioneering import of promise. The psychiatrist and psychologist as well will be tempted to examine carefully the concepts and implications of the R-function and the E-disposition as these mechanisms represent most fundamentally the author's interpretation. Egotism is offered as the fundamental principle of the deteriorating schizophrenic process. Stransky's "intrapsychic ataxia is the condition wrought by the distorted ego. "The primary insufficiency of mental activity" emphasized by Berze may be due to the dissipation of mental energy into perverted egotistic channels. "The intrapsychic dysharmony," propounded by Urstein, may well react from the domineering ascendancy of exclusive egotistic striving. "The habit deterioration" of Meyer may be partially explained as the replacement of

social by asocial modes of reaction in response to the master sentiments of a preponderating self-regard. These are some of the implications of Prof. Lundholm's penetrating interpretation.

JOHN EISELE DAVIS.

SEX HABITS. By *A. Busche* and *F. Jacobsohn.* Translated from the German by *Eden* and *Cedar Paul.* (New York: Emerson Books Inc., 1933.)

This work, an accurate but simple treatise on every phase of human sex life, in the light of present-day conditions fills a distinct need.

The initial chapters covering the field of anatomy and physiology of both male and female reproductive organs are well illustrated and scientifically presented. The succeeding chapters dealing with such subjects as "Sex Impulses," "Impotence," "Sterility," "Abnormalities of Sex Life," "The Menopause," are logically and healthily explained. The reader is not presented with a maze of detailed information but instructive, factual data essential to a correct understanding of sex.

To the twentieth-century parent, such subjects as "Puberty," "Sex Impulses," are especially satisfactory; to those contemplating marriage, wholesome instruction is provided; to the teacher, a practical, unbiased reference affording ample informative material. From the psychiatric view-point, the information contained in this manual is invaluable—knowledge which has been far too long withheld from the lay mind.

C. H. MCCUAIG,
Toronto Psychiatric Hospital.

THE FAMILY. ITS SOCIOLOGY AND SOCIAL PSYCHIATRY. By *Joseph Kirk Folsom.* (New York: John Wiley & Sons, 1934.)

In his earlier writings Professor Folsom has accustomed us to a very high standard of thoroughness and fairmindedness. His latest work will certainly enhance his reputation. In the very extensive literature on the subject we know no single book which deals with the family in anything like so complete and satisfying a way. The cultural, biological, psychological and social aspects of the subject are treated with equal thoroughness. Nearly six hundred different authorities are not only referred to but used with judgment and understanding; and these authorities range from Plato and Aristole to Kipling, Lenin—and of course all the best-known contemporary psychiatrists and sociologists. Indeed, one's chief criticism of the work is that it is rather a compendium than a book; yet it is so excellently arranged and so logical in its conception and elaboration that one is inclined to withdraw the criticism as soon as it is made.

Although the cultural approach is dominant throughout the book, long sections are devoted to special consideration of the psychology of love and mating, of marital relations and family interactions; and these are particularly valuable in that they link together and give depth to the many partial studies of family disorganization which have appeared in recent years.

In this field Professor Folsom shows remarkable sanity of judgment. He gives us a formidable array of statistics, collected largely from the results of questionnaires published by numerous enquirers. But he is well aware of the danger of basing conclusions upon the questionnaire method when dealing with situations of almost infinite complexity. His aim, in presenting the results, is to assist students to develop *quantitative* good judgment, or the habit of forming an estimate of the extent of various conditions. But, as he is careful to point out, statistics are not *ipso facto* significant, and "a more adequate qualitative analysis is necessary before counting and measuring can be worth while." This warning is peculiarly timely in reference to the causes of dysharmony in so intimate a relationship as marriage and so complex an association as the family. The author might have pushed his warning farther. It is very doubtful whether statistics based upon such totally inadequate samples as two or three hundred marriages have any valid factual content. They are useful as suggestions or as stimuli to further research. Beyond that they are apt to be simply dangerous.

Dr. Folsom gives us an equally timely warning in regard to the many suggested "solutions" of the problem of dysharmony in marriage. Each solution, he tells us, when studied in detail, becomes in itself a problem. "Indeed the whole concept of 'problem and solution' is merely a tool which is useful in the earlier stages of our thinking. As we think more deeply into the tangled mass of facts, we shall view both 'problem' and 'solution' as merely steps in a continuous process of social maladjustment and readjustment." And in his all too short concluding chapter, Dr. Folsom is scrupulously loyal to his principles. He offers no easy "solution" of the many difficulties surrounding marriage and family life to-day. But he pins his faith to "a continuous process of readjustment under the influence of a progressive liberal individualism, leading to a richer variety of life-patterns among individuals and small primary groups." And, after all, is not that the only sane optimism?

It is perhaps a little churlish to complain of shortcomings in so complete a treatise. But we cannot help wishing that the author had been less modest in displaying his own opinions. When he does express them, they are so reasonable and so suggestive that one wishes he had given much more of his space to his own views and perhaps a little less to those of other people. A more serious lack is also perhaps connected with the author's modesty. Dr. Folsom has given so much thought to the bases of social progress that one feels a distinct sense of disappointment at the rather cavalier treatment of a topic so fundamental to his whole enquiry. May one suggest that the biological concept of progress does not yield a completely satisfying definition of welfare? And that the statement that "the function of culture is the maximum satisfaction of human beings," or even that "its function is to produce more health and happiness," is not in any sense an answer to the question "What *is* human or social good"? Perhaps in his next edition Dr. Folsom will remedy these defects. Meanwhile we may be grateful to him for a book of real value to all advanced students of a very vital subject.

E. J. Urwick.

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE OF THE UNITED STATES FOR THE FISCAL YEAR 1934. (Washington: Government Printing Office.)

In his annual survey of health conditions throughout the world, and particularly the United States, General Hugh S. Cumming notes that this report covers the one hundred and thirty-sixth year of the existence of the Public Health Service.

In spite of continuing unfavorable economic conditions studies of the population as a whole both in the United States and elsewhere do not indicate that the general health has been lowered. This favorable finding the Surgeon-General attributes largely to "the vast work of the relief agencies and the absence in widespread epidemics." At the same time there were noted "higher sickness rates among the recent poor class, the families who were comfortable in 1929 but had become poor (annual per capita family income less than $150) by 1932. . . . . The data suggest a rising mortality from 1929 to 1932 within the class most severely affected by the depression in the face of a downward trend in the death rate in the general population."

Statistics which are available from twenty-seven states for the calendar year 1933 show a death rate of 10.5 per 1000 population, which is "the lowest death rate ever recorded for these states." (10.8 per 1000 in 1932.) The death rate of infants in their first year during 1933 remains the same as in the preceding year, equivalent to one death of every seventeen born. The birth rate continues to decline—16.4 births per 1000 population in the United States against 17.4 in 1932. There has been a steady decline from 25.1 in 1915. Deaths from tuberculosis, typhoid fever and diphtheria reached new minimums in 1933:

Tuberculosis 59 per 100,000.
Typhoid fever 3.5 per 100,000.
Diphtheria 3.9 per 100,000.

The Division of Mental Hygiene, under Assistant Surgeon-General Walter L. Treadway, announces that the probable date of opening the first United States Narcotic Farm at Lexington, Kentucky, is April 1, 1935, Through the Public Works program funds have also been provided for beginning construction of the second Narcotic Farm at Fort Worth, Texas.

Medical and psychiatric services were provided in two additional institutions administered by the Department of Justice. These were a medical unit at the Federal Prison at Tucson, Arizona, and a medical service at the United States Penitentiary, Alcatraz Island, California. This brings the total number of medical and psychiatric services in federal, penal and correctional institutions to seventeen.

C. B. F.

CONCEPTION PERIOD OF WOMEN. By *Dr. Kyusaku Ogino.* Translated by *Dr. Yonez Miyagawa.* (Harrisburg, Pa.: Medical Arts Publishing Co., 1934.)

Now that Congress in its wisdom has once more expressed its disapproval of Mrs. Margaret Sanger's campaign to increase relatively the number of wanted children, an anxious citizenry will thankfully turn to other means to the same end which, requiring no apparatus and obtaining the suffrage of Mrs. Grundy, are available to any one who possesses a calendar and a pencil.

There is an age-old tradition of a "safe period" which the authorities have been in the habit of scouting. But traditions sometimes have a way of arising upon some basis of fact; and it is not altogether surprising, owing to the influences which for many centuries have obstructed the scientific investigation of sex, that the facts—as they seem to be—should only now be established.

Dr. Ogino, who is head of the gynæcological service of Takeyama Hospital, Niigata, Japan, has for some fifteen years been studying the menstrual cycle with a view to determining the fertility and sterility phases. His results are set forth in clear and concise form, illustrated by charts from actual cases, in this 94-page flexibly bound pocket size brochure.

During the same period Professor Hermann Knaus, head of the university gynæcological clinic in Prague, was carrying on similar studies and reached the same conclusions. The method is sometimes referred to as the Ogino-Knaus method.

Starting with the correlated changes in ovary and uterus connected with ovulation, Ogino shows that the conception period includes eight days in each monthly cycle. The exact time when the ovum will be discharged cannot be determined but it will lie between the twelfth and sixteenth days before the onset of the next menses. To this span must be prefixed three days representing the duration of fertilizing ability of spermatozoa. Thus the total fertility period extends approximately from the twentieth to the twelfth day before the beginning of the next menstrual period. The remainder of the monthly cycle may be regarded as sterile.

The conception period naturally varies somewhat with the varying phases of the menstrual cycle in different individuals. The author supplies directions, illustrated by charts and tables, by which it can be determined in a given case upon the basis of a carefully kept menstrual calendar for the preceding twelve months. His exposition conveys the impression of authenticity. For the sake of clearness monthly calendars are presented showing estimated fertility periods in the several menstrual types varying from a 23-day to a 30-day cycle. Marital charts of individual cases are shown which appear to demonstrate graphically the reliability of the method.

It is only fair to say that while a number of investigators have confirmed the Ogino-Knaus theory, there are other authorities who withhold their support.

C. B. F.

In Memoriam.

AUGUSTE MARIE.

1865-1934.

From *L'Hygiène Mentale* the following particulars are obtained concerning Dr. Auguste Marie, who died July 29, 1934.

Dr. Marie was born at Voiron in 1865. His psychiatric career began as *Médicin des Asiles* in 1890. He served at the Colony of Dun-sur-Auron and at Villejuif, and at the time of his retirement was physician to the reception service at the Asile Sainte-Anne.

His scientific work was outstanding. He was the author of a great many articles dealing with all aspects of psychiatry; his interests included psychology, anthropology and sociology. Special stress should be laid on his activities in the general field of hospital administration and the provision of care of mental patients, and particularly upon his work in the pathogenesis and therapy of general paresis. His name will be remembered for the part he played in establishing in France family colonies for mental patients, as well as in connection with the introduction of malaria therapy.

Dr. Marie was honorary physician to the Hospitals of the Seine, medical expert to the courts, member of the *Société Médico-Psychologique,* corresponding member of the Medical Society of Hospitals, member of the Medical Society of Paris, commander of the Legion of Honor.

SIR MAURICE CRAIG, C. B. E., M. D. (CAMB.), F. R. C. P. (LOND.).

Sir Maurice Craig, who died on January 6, 1935, at his home at East Preston, near Littlehampton, was born in 1866, the eldest son of Dr. William Simpson Craig, who was the proprietor and physician of a home for mental patients at Bedford.

Sir Maurice was educated at Bedford School and at Caius College, Cambridge, where he took first-class honors in the Natural Science Tripos of 1887. He proceeded to Guy's Hospital Medical School

where he took his M. R. C. S. in 1891. In 1892 he gained the degree of M. B., B. Ch. (Camb.), and in 1897 became a Member of the College of Physicians, thereafter gained the M. D. (Camb.) in 1898, and was elected a Fellow of the College of Physicians in 1906.

After graduation he devoted himself to the study of psychological medicine and laid the foundation for his later brilliant career at the Wakefield Mental Hospital under Dr. Bevan Lewis, but principally at Bethlem Hospital where he became senior assistant physician. He had the distinction of gaining the Gaskell Gold Medal awarded by the Royal Medico-Psychological Association. From 1902-1926 he was physician for and lecturer in psychological medicine, and demonstrator in psychology at Guy's Hospital, and at the time of his death he was consulting physician in psychological medicine to Guy's Hospital. During the course of his career he received many marks of honor and esteem, a few only of which need be mentioned.

In 1922 he delivered the Bradshaw Lecture before the Royal College of Physicians, and in the same year the Maudsley Lecture on "Some Aspects of Education and Training in relation to Mental Disorder." During the Great War he held the rank of Lieutenant-Colonel, R. A. M. C., and his experience and skill were of great value not only in the treatment of those nervously and mentally disabled but also in a consultative capacity as consulting neurologist to the Ministry of Pensions, and as physician to the special Hospital for Officers founded by Lord Knutsford. His war services were recognized by a C. B. E. and in 1921 he was knighted.

The above short summary of distinctions and appointments held by Craig falls far short of completing the list and gives little or no idea of the thought, interest and keenness which he exhibited. He was an enthusiast and a whole-hearted pioneer, whose life was devoted to bettering the lot of those nervously or mentally ill. Perhaps his greatest achievements were (1) the part he took in founding the Cassel Hospital, Swaylands, Penshurst, Kent, and (2) the organization of the National Council for Mental Hygiene of Great Britain, of which in 1928 he became chairman.

The Cassel Hospital is in many respects unique. It was through Sir Maurice Craig that Sir Ernest Cassel became interested in establishing a hospital for educated people of moderate means suffering from the psychoneuroses. Sir Maurice became chairman of the Medical Committee of this hospital and its great success is

due in no small measure to his enlightened policy. It is safe to say that the Cassel Hospital has established a magnificent reputation in the treatment of an extremely difficult group of cases and has set a fine standard of psychotherapeutic practice.

He was not only the originator but the life and soul of the National Council for Mental Hygiene, and it was largely owing to his personal efforts that such an influential body of office-bearers headed by H. R. H. The Duke of Kent was gathered together. Sir Maurice was a vice-president of the International Committee and in 1930 took part in the International Congress at Washington.

He was interested in the social aspects of mental hygiene and his later work was concerned with attempting to educate the medical profession and the public to take a more intelligent interest in mental health problems. He thought more along physiological than psychological lines and he wrote a small book, " Nervous Exhaustion," in which he gave his views in detail. He was a thoroughly practical physician and psychiatrist, and one who entered wholeheartedly into the situation as it existed, so that he had the happy faculty of gaining the confidence of his patients and of guiding them to recovery. His clear clinical insight and broad grasp of psychiatric principles is well shown in his text-book, " Psychological Medicine: A Manual of Mental Diseases for Practitioners and Students."

Apart altogether from his professional attainments Sir Maurice Craig was a man of distinguished appearance, of an engaging personality, a genial host and a warm friend who was admired and respected by all who associated with him.

Sir Maurice Craig was married in 1903 to Edith de Saumarez, daughter of Mr. A. Kentish Brock, Guernsey, and the family consists of one son and two daughters.

It is particularly fitting that the Council of the National Council for Mental Hygiene have, with the assent of Lady Craig, decided to open a memorial fund to be known as the " Sir Maurice Craig Memorial Fund " so as to form a permanent memorial in connection with mental health.

D. K. Henderson,
Edinburgh.